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Winter/Spring 1985

# New England Journal of Public Policy

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**Nev l of Public Policy**

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Padrai , *Editor*
New England Journal of Public Policy

Edmund Beard, *Director*
John W. McCormack Institute of Public Affairs

Robert A. Corrigan, *Chancellor*
University of Massachusetts at Boston

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# New England Journal of Public Policy

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# Editor's Note

*Padraig O'Malley*

Over the years, public policy issues have proliferated, and with proliferation has come the inevitable specialization. The result: fragmentation of effort and problems of communication not only between those who make policy and those who implement it, but between practitioners in general and the academic and research disciplines that complement them. Public policy constituencies have created their own languages, but too often the result is a confusion of tongues rather than a profusion of ideas.

The *New England Journal of Public Policy* is designed to create a profusion of ideas by providing a medium for practitioners, policy analysts, and academics throughout New England to define their problems and to develop approaches to solving them. We hope that the journal will become an important forum for the exchange of ideas on public policy issues that have special significance for New England.

To further this exchange of ideas, the journal will draw on contributors who reflect the diversity of the field itself: elected officials, government managers, members of the business community, journalists, academics, humanists; indeed anyone who has demonstrated in his or her work a unique New England perspective of one kind or another.

But the journal will go beyond that. It will explore the relationships between values and culture and examine how the symbiosis of the two is reflected in public policy. This approach may sometimes call for disaggregating the aggregate, and for a microscopic examination of how the inherited folk wisdoms of history and continuity manifest themselves in the lives of ordinary people.

Thus, in this inaugural issue, we balance the macro-observations of James Howell on the New England economy and of George Masnick on the demography of New England with Donald Hall's almost whimsical reflections on class and culture in rural New Hampshire; I. C. Bupp's micro-analysis of the Seabrook nuclear power plant imbroglio; and Joseph Cronin's timely agenda for Boston public schools.

Common themes emerge: the overriding importance of education as *the* source of economic growth in New England; the need to retrain large segments of our labor force in order to take advantage of the new technologies, especially since the "baby-bust" will lead to tight labor markets that will erode New England's current (if surprising) real-wage cost-differential; the rapid growth of population in the more remote non-metropolitan areas with its attendant impact on their fragile infrastructures; and what might be called, for want of a better phrase, the New England attitude.

*Padraig O'Malley is a Senior Associate at the John W. McCormack Institute of Public Affairs.*

Indeed, to understand the place (as distinct from the role) of public policy in a New England context, we must understand the paradox of the New England attitude. The unconventional thinking, which James Howell alludes to as a trademark of the entrepreneurial gene of New England, is equally a trademark of Donald Hall's Rusticus, who prefers to work alone, who may voluntarily work for less money, and who rejects the imperatives of the middle classes: that one will do better than one's father and mother; that one's children will do better than oneself; that "better" includes "education," and education provides the things of this world; and that the things of this world are good.

In the *New England Journal of Public Policy* the emphasis will be on the literate as well as the technical, on bridging the gap between the abstract and the practical, on expanding the range of public policy debate by increasing the number of active debaters, and on enhancing the quality of that debate, mindful always of Thoreau's admonition: "If a man does not keep pace with his companions, perhaps it is because he hears a different drummer. Let him step to the music which he hears, however measured or far away."

# The New England Economic Revitalization and Future Research Priorities

James M. Howell

*New England's recent economic revitalization is largely attributed to the region's success in technological innovation and adaptation. This capacity to supplant older, maturing technologies with new technologies—a willingness to continually shed the old to make room for the new—has been a characteristic of New England since the early nineteenth century. At that time, as today, the critical factors in the process of technological development were the presence of investment capital, skilled labor, entrepreneurs, and, above all, preeminent colleges and universities that foster unconventional thinking and risk-taking. While the region's economy should continue to benefit from these fundamental factors, it is not without problems, and these merit additional research. The problems specified in this article all relate to maintaining the fundamentals for growth in the face of the adjustments that inevitably occur when a region undergoes periods of structural change. Nonetheless, two centuries of successful technological and manufacturing revitalization confirm the resiliency of New England's economy and underscore its ability to successfully undergo periods of industrial transition and transformation.*

One of the great challenges facing industrial economies is the ability to evolve new industries as traditional industries face increased competition from lower-wage countries. History has shown that this process of technological innovation and adaptation is the key to continued economic growth. It is a complex process involving a combination of risk capital, skilled labor, and entrepreneurs.

The New England experience has gained worldwide attention as an example of successful technological adaptation and manufacturing revitalization. This article will focus on that experience and its relevance for regions, or countries, seeking to transform their manufacturing base in the face of increasing international competition. It will also specify a number of critical research priorities.

Throughout much of the 1970s, economic observers, including the Bank of Boston, were openly pessimistic about New England's future, largely because of the region's poor economic performance in the recessions of 1969-70 and especially 1974-75. More recently, however, we have come to fully appreciate the meaning of the maxim "The only thing certain about the future is change." Reflecting on the events of these years from the vantage of 1984, it is clear that the structure of New England's economy has undergone a fundamental change. Relative to the first half of the 1970s, employment

*James M. Howell is Senior Vice-President, Bank of Boston.*

in manufacturing has swung abruptly from a laggard in overall regional growth (down 5.6 percent) to the second sharpest growth sector (up 4.4 percent), as shown in Table 1. Indeed, approximately one-fourth of the region's employment growth in the second half of the last decade can be explained by the improved performance in manufacturing.

*Table 1*

**Changes in New England Nonagricultural Employment, 1968-1980**

| | 1968-75<br>% | 1975-80<br>% |
|---|---|---|
| Percent Change in New England Nonagricultural Employment | +5.2 | +17.5 |
| Relative Sectoral Contribution | | |
| Construction | −0.5 | +0.3 |
| Manufacturing | −5.6 | +4.4 |
| Trade | +3.0 | +3.7 |
| Services | +5.2 | +7.3 |
| Government | +3.1 | +1.8 |

*Source:* U.S. Dept. of Labor, Bureau of Labor Statistics, selected reports.

That manufacturing activity would demonstrate such economic vitality in the oldest industrialized region of our country is most interesting. It tends to provide clear refutation to those who have argued that older regions must necessarily be condemned to a future of slow economic growth, or even stagnation, as a result of a failing manufacturing base. New England's economic strength—especially as seen in the high-technology industries—demonstrates persuasively that regional growth can be led by manufacturing if industry is technologically innovative and government policy responsive.

The results are impressive. Since 1975 the New England economy has generated more than a quarter of a million new manufacturing jobs. The region's unemployment rate—at roughly 4 percent—remains well below the national average of 7.5 percent, and Massachusetts continues to have the lowest unemployment rate of any industrial state in the nation.[1] Moreover, many older communities in the region have been able to reverse their declining economic fortunes.

New England's resurgence has been noted by *The New York Times, The Wall Street Journal,* and *The Economist.* The analysis in these and other respected publications points clearly to a dramatic "Yankee turnabout" in the New England economy—but few observers have been able to explain clearly why this has occurred.

Why New England? In an attempt to provide answers to this question, this article will address three important issues: (1) the evolution of New England's technology base, (2) the fundamentals of the region's production process, and (3) the perception of the region as a place of opportunity.

## The Evolution of New England's Technology Base: Hurrying History Along

Of all the factors affecting this region's economic turnabout, the spectacular growth in high-technology industries clearly stands out.[2] Attempts to trace developments leading to the revitalization of the region generally assume that the technology base of New England emerged somewhere in the post-Sputnik NASA era of the 1960s. There is much to be said about the technical dynamism of this period and its relationship to the revitalization. To be sure, New England continues to benefit more than other regions from federally sponsored research and Department of Defense contracts: with only 5 percent of the U.S. population, New England receives more than 10 percent of federal research and development funds and 11 percent of federal defense contracts.[3]

Nonetheless, the reality is that New England has always been on the cutting edge of technology. The factors underlying the birth of the American Industrial Revolution in New England in the early nineteenth century are the very ones that account for the success of high technology today:

A supply of investment or, "risk," capital. In years past, this was made available from overseas trade; today much of it comes from the profits of successful technology start-ups.

A relatively large pool of skilled labor. One hundred and fifty years ago, as today, the region could boast of more skilled craftsmen and mechanics in the traditional industries than other parts of the country.

The presence of entrepreneurs who have understood the demands of risky investments and have effectively drawn upon capital and skilled labor in transforming innovations into profitable production.

In the early nineteenth century the commingling of these critical ingredients led to the high concentration of technical development in New England, creating entirely new markets and the need for industries such as machine tools and textiles.

These, in turn, produced many new industrial spin-offs. In fact, a large number of today's leading high-tech firms in the region owe much of their advantage to firms that preceded them. To cite just one example, the robotics industry came out of a long line of New England machine tool developments that can be traced back to the early nineteenth century.[4]

Development planners from other parts of the United States as well as nations overseas have sent representatives to New England to study the "spin-off" process. The lesson they invariably take home is that it takes a variety of resources—specifically skilled workers, capital, and entrepreneurs—to produce technological growth. But the glue that holds the process together is the presence of pre-eminent educational institutions.

In June 1982, a study of high technology carried out by the Joint Economic Committee of the U.S. Congress concluded that "unlike the more traditional manufacturing companies, high technology companies . . . seek out a community noted for the excellence of its academic institutions. . . . Universities provide benefits to high technology companies through their basic research activities and through the intellectual and cultural climate that they provide. More important, . . . universities provide skilled labor in the form of faculty consultants, research assistants, and graduating students."[5] In addition to these benefits, a number of universities are setting up "incubator" facilities that provide low-cost space for start-up companies, technical and management assistance, and laboratory, library, computing, and office service facilities.[6]

New England has powerful advantages with respect to its institutions of higher education. With 260 colleges and universities—65 in the Greater Boston area alone—New England is almost certainly the most knowledge-intensive region of the country. Approximately eight hundred thousand students are enrolled in New England colleges and universities, and many of them stay in the region after graduating—heading out into high-technology and information industries or the professional services market.

Historically, the Massachusetts Institute of Technology has played a critical role in research that furthered the development of industrial products and processes. But MIT is not unique or even alone in this regard. The Worcester Polytechnic Institute, in central Massachusetts, and Brown University, in Rhode Island, have played a role similar to that of MIT in providing engineering input to innovative companies. In reality, it is the total environment of universities and technology-based industries, together making new products and processes in fields of common effort, that has provided the basis for the region's economic turnaround.

Yet no country or region, even New England, can maintain technological excellence without some periods of discontinuity. In New England there have been relatively long periods between the maturing of one technology, with its broad income and employment benefits, and the beginning of the next. In New England's case, the first major growth spurt was the nineteenth-century Industrial Revolution, the second was the technology boom of World War II, and today's is the computer revolution. The movement from one period to the next, however, was most uneven, involving industry dislocation and high structural unemployment.

But however harsh these adjustments have been economically, the educational and technological superiority of New England has greatly facilitated the region's capacity to "hurry history along" in the transition from one period to the next. For other less educationally and technically well-endowed regions of the United States this adjustment process may well be more difficult.

## The Fundamentals of the Region's Production Process

Certain fundamental factors have contributed to the recent rebirth in the region's technologically based manufacturing sector; though they have always contributed to the region's adjustment from one technological era to the next, they can be most easily observed in the current period of technological transition.

### *Factor l: The Role of Aggressive Venture Capital and Commercial Banking in the Region*

Throughout U.S. history, New England has provided leadership in developing new ways of providing investment in a dynamic economy. Indeed, taking investment risks has been a habit in New England since the days of the East India trade. As a result, the region has an unusually large number and variety of financial institutions.

Venture capital is a major source of financing for industrial enterprises. For high-tech firms, venture capital, or start-up money, can transform good ideas into salable products. Perhaps not surprisingly, one of the sources of this venture capital is entrepreneurs who have built successful high-tech firms and now choose to channel their own capital resources into new technology starts. For instance, the Boston-based seed capital fund Eastech was created with the financial participation of more than a hundred such individuals.

Geographically, the lion's share of venture capital dollars in the United States has been concentrated in California and Massachusetts. During the 1970s, Massachusetts alone—with only 2.5 percent of the U.S. population—accounted for roughly 25 percent of all the venture capital investments in the nation.[7] Since 1981, two New England states, Connecticut and New Hampshire, have received substantial new venture capital investment.[8]

But venture capital provides only part of the financing for high-tech firms. At the proper stage of development, banks have helped put together the overall financing packages that have allowed "coming" companies to become "going" concerns.

Bank of Boston's commitment to high tech took an interesting form in the late 1960s. At that time, any entrepreneur with a federal contract in hand found it extremely easy to obtain credit at the bank, which is one reason why Route 128—now known as America's high-technology highway—became a reality. This kind of aggressive commercial bank lending to high-tech firms in the region is even more commonplace today.

### *Factor 2: The Role of State Policies*

Before the recession of 1974-75, the region's left-of-center political focus was more on redistributing wealth than on creating it. But the sinking economic conditions of the mid-1970s, coupled with a fast-rising challenge from competitive Sunbelt states, jarred New England out of its "Yankee" reserve.

From Maine to Connecticut the tax-and-spend attitude of state governments in the region that prevailed during the 1960s and early 70s has given way to a recognition that economic health depends on jobs, and that job creation depends on a favorable business and tax climate. Anyone driving through New England can easily see this change in attitude in state advertising posters, bumper stickers, and television commercials—a "good neighbor" policy for business has become a reality.

But the real proof lies beneath the surface—in the changes in state policies that have helped state officials throughout New England put out the welcome mat for business, particularly technology-based firms:

An extensive network of development finance entities has been created to assist business start-ups and expansions with capital and technical assistance. The Massachusetts Technology Development Corporation, for example, is a public agency that provides venture capital to early-stage high-risk technology companies in the state.

States in New England have been among the first in the nation to centralize business-related programs by establishing "one-stop shopping centers" in their governments for businesses seeking information on site location, permit requirements, and state incentive programs.

New England states have launched major new programs for customized job training to ensure that high tech's employee-skill needs are met.

It would be naive to argue that all elected officials in New England have become "born-again capitalists," but there has been a dramatic shift in attitude among elected leaders since 1975—unquestionably contributing to the region's technology-based revitalization.

### *Factor 3: The Role of Manufacturing Production Costs*

The revitalization of New England manufacturing has also come about in part because of the regional equalization of production costs. In a recent milestone study, Dr. Benjamin Stevens demonstrated that the New England economy has become relatively more competitive for manufacturing. Specifically, this analysis shows that during the 1973-80 period there has been a relative production cost improvement in New England vis-à-vis the Old South states that ranges from 30 to 50 percent.[9] The positive adjustment of wages has dominated this change to the point that today New England has the lowest real wages of all regions in the country. The relevant wage data ratios are shown in Table 2.

*Table 2*

**Average Regional Manufacturing Wages as Percent of New England, 1980**

| | % |
|---|---|
| New England | 100 |
| Great Lakes | 114 |
| New South | 104 |
| West Coast | 136 |

*Source:* U.S. Dept. of Labor, Bureau of Labor Statistics, selected reports.

These data confirm that New England enjoys a competitive wage scale, even when judged against our stronger regional rival—the New South. The low wage rates in New England are particularly important to high-tech industries as a whole.[10] The attractiveness of New England's labor force is further enhanced by the virtual absence of unionization within the high-tech industries.

In the final analysis, just as the presence of first-rate educational facilities is critical to technology *start-ups,* so labor availability and wage rates dominate the *expansion* needs of high-tech firms. Here, as with its institutions of higher learning, the region currently stands on firm ground.

However, a cautionary note is in order. Over the long-term, "tight" labor markets are likely to develop as defense contractors and high-tech firms vie for skilled and semiskilled labor. Looking ahead, the issue of labor availability is likely to become an especially pressing factor in new business growth and a concern for regional policymakers, as labor scarcity pushes wages upward and a new cycle of competition for workers is set into motion.

## Perceptions of the Region as a Place of Opportunity

Ralph Waldo Emerson once asked, "Why should not the New Englander try new adventures?" He could have been speaking of the researcher who sees a promising but risky path and pursues it even if it is at odds with conventional thinking, or the entrepreneur who can capitalize on new product ideas in the face of difficulties, or the financier who is willing to back the exciting but uncertain proposal.

Along these lines, Frank Newman, former president of the University of Rhode Island, has remarked that what distinguishes New England from other parts of the country is the presence of an "opportunistic" environment that favors innovation and that, in turn, attracts "risk lovers"—the very kinds of individuals who are most likely to beat the odds, pursue an idea with tenacity and determination, and become successful entrepreneurs. This is also precisely the kind of environment in which the technological breakthroughs occur that generate entirely new products and services.

Although critically important, the concept of entrepreneurship is widely misunderstood. All too often, the terms *entrepreneurship* and *management* are used interchangeably. This is unfortunate, for these two concepts are distinctly different. Management is that organizational function most closely associated with the day-to-day decisions of running a business firm. Entrepreneurship is a much more narrow concept related specifically to the conceptualization of an innovative idea around which a new business firm can be created.

Entrepreneurial energy is vital to the continued strength of the U.S. market economy, as well as to developing an understanding of the industrial revitalization of New England. Indeed, Seymour Martin Lipset, in his essay "Values, Education, and Entrepreneurship," singled out these special individuals as a separate class in society.[11] He argued that it was their tenacious pursuit of change and innovation (and in turn wealth) that sometimes made their behavior "deviant" according to accepted norms.

In the eyes of would-be entrepreneurs, New England *is* a good place to start a business—and it is a particularly good place to start a technology-based business. Start-ups are likely to be more concentrated in existing high-tech centers because they often draw upon the labor and entrepreneurial resources of established firms. As Dr. Lynn E. Browne, vice president of the Boston Federal Reserve Bank, pointed out in a recent article:

> "High-tech firm after high-tech firm has been started by individuals previously associated with other high-technological companies. In many cases the new operation is almost next door to the old. The computer industry provides some striking examples. In Massachusetts Data General was founded by a former Digital employee. Apollo Computer was started by a former executive of Prime Computer and, very recently, the former president of Prime announced the formation of Encore Computer Corp. Existing high-tech firms are both training grounds and hotbeds of ideas. They also provide examples of entrepreneurial success which excite the ambitions of their employees."[12]

Watching Massachusetts high-tech entrepreneurs create exciting new businesses provides vivid confirmation of the reality of Lipset's point. Today there are 160 member firms of the Massachusetts High Technology Council. Currently, these firms employ more than 130,000 people in Massachusetts and 240,00 worldwide. Moreover, most of these firms have been in existence for such a short time that they have not yet established their retirement policies.

One may still ask, however, to what extent these factors—that is, the historical importance of labor, capital, and entrepreneurs; the presence of educational institutions in making the region technology-supportive; the roles played by aggressive financiers; changes in state policy; and declining relative wage rates in New England's most recent period of technological vitality—remain important as high-tech firms "grow up."

Robert M. Ady, executive vice president of the Fantus Company, recently provided an answer based on the different growth rates of high-tech companies.[13]

> *Stage 1*. "The entrepreneurs are usually scientists or theoreticians, not necessarily practical business people. . . . They need cross-fertilization of talent and ideas from other high-tech companies in the area. . . .[14] The company may be near a university setting so individuals working on a project can retain close relationships with the university, the professors, colleagues, and facilities. Commercial air service is also important. Entrepreneurs spend a significant amount of time talking with other people working on similar ideas all over the country."

> *Stage 2*. "Locational characteristics are different once the product has viability and is accepted in the marketplace. The availability of skilled labor and vocational/technical schools becomes a critical factor. . . . At this stage the company has a salable product, is still very technical, and needs accessibility to the R&D facility—the theoretical base. A 'magic mileage' formula is usually used here—within 300 to 400 miles of the location of R&D or within two to three hours of travel."

*Stage 3.* "Price competition enters seriously into the product at this stage. Labor and transportation costs become most important as the new product becomes copied by other firms."

Based on these locational requirements, many New England communities are particularly attractive sites for stages 1 and 2 in the growth of high-tech firms. Moreover, it is during these very stages that high-tech firms have the highest rates of job generation. An unpublished study undertaken by Bank of Boston's Economics Department, based on earlier analyses of the MIT Development Foundation, shows that the employment growth rate is particularly significant in the early growth stages of high-tech firms but diminishes as the companies mature. Tables 3 and 4 clearly tell the story.

*Table 3*

**Mature Companies**
*Average Annual Growth (Compounded), 1945-1974*

| | Sales | Jobs |
|---|---|---|
| | % | % |
| Bethlehem Steel | 4.9 | −1.7 |
| DuPont | 8.6 | 2.6 |
| General Electric | 8.4 | 3.5 |
| General Foods | 8.2 | 4.5 |
| International Paper | 9.2 | 2.8 |
| Procter & Gamble | 9.6 | 3.8 |
| Weighted Average | 7.8 | 1.9 |

**Innovative Companies**
*Average Annual Growth (Compounded), 1945-1974*

| | Sales | Jobs |
|---|---|---|
| | % | % |
| Polaroid | 14.0 | 9.0 |
| 3M | 14.1 | 9.0 |
| IBM | 16.8 | 10.2 |
| Xerox | 24.2 | 19.4 |
| Texas Instruments (1953-1974) | 21.2 | 17.3 |
| Weighted Average | 16.5 | 10.8 |

**Young High-Technology Companies**
*Average Annual Growth (Compounded), 1969-1974*

| Date Incorporated | | Sales | Jobs |
|---|---|---|---|
| | | % | % |
| 1968 | Data General | 140.5 | 82.5 |
| 1959 | National Semiconductor | 54.3 | 59.4 |
| 1960 | Compugraphic | 50.2 | 24.0 |
| 1957 | Digital Equipment | 36.8 | 30.7 |
| 1964 | Marion Labs | 24.5 | 25.4 |
| | Weighted Average | 42.5 | 40.7 |

*Source:* Selected company annual reports.

*Table 4*

**Mature Companies**
*Average Annual Growth (Compounded), 1975-1980*

| | Sales | Jobs |
|---|---|---|
| | % | % |
| Bethlehem Steel | 6.3 | −5.3 |
| DuPont | 13.7 | 0.5 |
| General Electric | 12.1 | 1.4 |
| General Foods | 10.7 | 2.4 |
| International Paper | 11.2 | −8.0 |
| Procter & Gamble | 12.1 | 2.8 |
| Weighted Average | 11.5 | 0.0 |

**Innovative Companies**
*Average Annual Growth (Compounded), 1975-1980*

| | Sales | Jobs |
|---|---|---|
| | % | % |
| Polaroid | 12.3 | 5.5 |
| 3M | 14.2 | 0.8 |
| IBM | 12.7 | 3.4 |
| Xerox | 15.1 | 5.2 |
| Texas Instruments (1953-1974) | 24.4 | 9.7 |
| Weighted Average | 14.4 | 4.3 |

**Young High-Technology Companies**
*Average Annual Growth (Compounded), 1975-1980*

| Date Incorporated | | Sales | Jobs |
|---|---|---|---|
| | | % | % |
| 1968 | Data General | 40.4 | 34.3 |
| 1959 | National Semiconductor | 31.4 | 21.4 |
| 1960 | Compugraphic | 30.2 | 18.1 |
| 1957 | Digital Equipment | 34.7 | 23.9 |
| Weighted Average | | 34.6 | 24.0 |

*Source:* Selected company annual reports.

Table 3 shows the job-creation growth rates from 1945 to 1974 for mature companies and innovative companies, and from 1969 to 1974 for young high-tech companies. It is interesting to note that while jobs at mature companies increased at an average annual rate of 1.9 percent, they increased at an average annual rate of 10.8 percent for innovative companies and the remarkable average annual rate of 40.7 percent for young high-tech companies. Admittedly, part of this phenomenon can be explained by "statistical smallness" in the high-tech companies, but the increases are maintained for such a sustained period of time that they cannot be dismissed.

As shown in Table 4, during the 1975-80 period, these job-creation rates slowed for all three categories. However, young high-tech companies were still creating jobs at an average annual rate of 24 percent—a healthy job-growth rate but a 40 percent decline from the earlier period. The lesson here is that high-tech companies are in a state of dynamic growth and adjustment. Inevitably there will be a slowdown in job creation as a result of maturation in today's high-tech industries, and they will undoubtedly fade as new technologies emerge. *Sustained growth comes only to those regions that encourage a willingness to continually shed the old to make room for the new.*

In west Texas, rattlesnakes shed their skins to give themselves "wiggle room" for new growth. In New England a somewhat similar process is at work: outworn technologies are shed to make room for new ones. Emulating the rattlesnakes can help a region —as it has New England—to "hurry history along" in the transition from one technological era to the next.

## Will It Happen Elsewhere?

In the United States today the competition among states for high-tech industries is fierce. State after state is actively engaged in targeting specific high-tech industries and in designing aggressive marketing campaigns to attract them. Indeed, state initiatives to promote technological innovation was a major subject of discussion at the National Governors' Association Conference in Nashville, Tennessee, in 1984.

As stated earlier, the foremost reason why New England generally—and Massachusetts in particular—has done so well in providing a home for high-tech industries is the presence of a substantial number of colleges and universities. The international greatness of a few of these has attracted the best and brightest from all over the world. These individuals—with no stake in Boston's Brahmin society—have consistently provided the state with a ready supply of potential entrepreneurs.

The presence of first-rate higher education institutions is a must for rapid and sustained technological growth. But the New England experience suggests that this kind of educational capacity cannot be created overnight.

Though states cannot build preeminent institutions easily and quickly, there is a resource close at hand to which they can turn: their public land grant colleges and universities. It is no coincidence that Austin, Texas, is becoming an important center for electronic components and small computers in the aftermath of a decision by the University of Texas at Austin to commit over $30 million to microelectronics and computer sciences. North Carolina's Research Triangle Park draws upon the scientific and engineering capabilities of two state universities—North Carolina State University and the University of North Carolina. On a smaller but nonetheless effective scale, R&D centers that encourage applied research and attract industry collaboration are being established in a number of public universities. Ohio State's leadership in welding research is a case in point, as is the University of Rhode Island's in robotics, and the University of Utah's in medical research. Georgia Tech, among others, provides "incubator" space to new technology-oriented businesses.

In short, the revitalization of New England can be traced more than anything else to an educationally fertile environment that fosters entrepreneurship. This means not only a strong college and university system, but one that recognizes that the crucial people in technological development are those who are excited by the prospect of taking a chance in addition to being well educated. In the final analysis, it is the maverick—the nonconformist who persists in spite of the odds—who makes innovation a marketplace reality. Hence the discussion in the concluding section of this article on the set of research priorities that are likely to play a major role in the public policy debates well into the 1990s.

## Defining an Appropriate Regional Public Policy Research Agenda

The process of hurrying history along through successive periods of technology development is most complex. Yet because technological renewal is so vitally important in keeping the region competitive in world markets, and because persistent unemployment during periods of industrial discontinuity is so politically unacceptable, it will always be tempting for elected officials advocating new government policies and programs to ameliorate this adjustment process. Indeed, the constant dilemma in developing economic policies is that politicians by the very nature of the electoral process seek short-term solutions to what is a long-term adjustment.

Achieving basic industrial structural change is a painful process for any region. For this reason, it would be worthwhile, as a research project, to address the question of whether a capitalistic, or market-based, region can maintain technological excellence without some periods of industrial discontinuity. The central public policy issue in this research is whether an activist role for state governments in the economy is the most promising approach to maintaining regional technological strength and vitality—and, if so, what the critical aspects of that role should be.

### *The Process of Industrial Aging*

Since 1975, employment growth in high-technology firms in the region has been quite rapid. Indeed, it was pointed out in the foregoing analysis that this employment growth was an important ingredient in the process of industrial renewal. Clearly, it is the initial spurt of job creation that makes the employment impact of labor-intensive, technology-related industries so attractive. Nonetheless, historical experience indicates that this pace of growth cannot be sustained. Inevitably, it seems that job-creation rates will slow, and today's high-technology industries will begin the inexorable process of evolution into tomorrow's mature industries.

The whole process of change is not well understood, prompting the need for further research. Questions such as the following arise: Is industry maturation inevitable? Can the maturation process be delayed or at least slowed through marginal doses of new technology in the existing production process or in related processes? The answers to these questions will ultimately suggest the direction of this region's economic fate and provide valuable lessons for other regions.

Accordingly it would be very worthwhile to attempt to determine whether this slowing down in growth is the result of technological competition or managerial diseconomies. It is generally accepted that larger organizations are less responsive to changes in competitive markets.

The difficulties of organizations in meeting a slowdown in the growth of demand results from their inability to develop domestically and internationally competitive new technologies. However, technological change may also stimulate new types of demand. The most successful companies will be the ones that are the first to identify these demand shifts.

As a result of technological change and the increased intensity of competition, product diversification and variations in organizational structure eventually affect the location of head offices, production units, subsidiaries, contractors, and markets. Organizational structure, in particular, can have a significant influence on a firm's adaptation to change. Smaller organizations, for example, might be more adaptable to change and innovation than larger enterprises in that they are able to make timely decisions without a hierarchically stolid bureaucracy. They are more flexible to changes in opportunity.

An objective of future research should, therefore, be to look at regional high-technology issues from a micro perspective. Such research might, at the very least, show how organizational structure influences, and is influenced by, new technology development under changing economic conditions. The research would also examine how changing corporate strategy might set the issues in a state's economic policy agenda. Such an agenda—if properly drawn and implemented—might help the region delay the industrial maturation that results from changing corporate business strategies as the competition for the region's products intensifies.

### *Structural Unemployment and Industrial Transition*

Throughout the 1950s and 1960s, the troublesome issue of industrial transition and structural unemployment was a matter of considerable and serious research interest.[15] During this period, it was widely accepted that in industrially mature regions such as New England no amount of economic growth would be sufficiently pervasive to pull the structurally unemployed manufacturing worker back into the growing component of the labor market.

This discouraging viewpoint was painted in a most negative way by Barry Bluestone and Bennett Harrison in 1974.[16] Their papers went beyond the traditionally established concerns by demonstrating that most structurally unemployed workers from New England's traditional manufacturing industries not only had severe re-entry problems within this sector but also faced a harsh, limited potential adjustment into other industries within the nonmanufacturing sector.

These studies took as a given that regional growth was not likely to be strong enough to solve these problems. It was also assumed that even if suburban and rural growth were to be significantly accelerated, it would neither spill into the mill towns nor pull out these pockets of structural unemployment.

Based on the vigorous reindustrialization of New England, it would appear that rapid aggregate regional growth has substantially reduced structural unemployment in a number of New England cities. The data in Table 5 vividly illustrate this point.

*Table 5*

**Selected Unemployment Rates***

| | 1965 | 1975 | 1983 |
|---|---|---|---|
| | % | % | % |
| New England | 4.5 | 11.0 | 6.9 |
| Lowell, Mass. | 9.2 | 13.1 | 6.2 |
| Haverhill, Mass. | 6.9 | 15.2 | 7.6 |
| Portland, Me. | 3.9 | 8.7 | 6.2 |
| Burlington, Vt. | 3.9 | 7.8 | 4.4 |
| Springfield, Mass. | 5.3 | 12.5 | 7.6 |

*Source:* U.S. Dept. of Labor, Bureau of Labor Statistics, selected reports.
**Data are for June of each year, seasonally adjusted.*

These developments suggest serious new research is needed in at least three areas:

First, to determine the extent to which fast versus moderate growth provides a positive employment impetus for labor markets in these urban areas.

Second, to specify the issue of industry mix and the apparent tenacity with which declining, or industrially mature, industries have "hung on" in some older mill towns and not others. This is a most important line of inquiry because it would help identify those forces that enhance industry transition in some cities and not in others.

Finally, to document the role of capital subsidies in "opening up" the business investment environment in cities and lowering relative unemployment. Specifically, it is interesting to note in referring to Table 5 that the five cities with low unemployment rates have each received an average of 7.2 Urban Development Action Grants, while the four with high unemployment rates have each received an average of 3.5 UDAGs.

### ***Labor Intensity in the High-Technology Firm's Production Function***

In the foregoing analysis specific reference was made to the fact that low wage rates in New England have been particularly important to the indigenous development of high-tech industries. And, within this context, it has been demonstrated that the capital to create each job in the high-tech production process amounts to only about 10 percent of that for all U.S. manufacturing industry.

Additional research into the issue of labor intensity in the high-tech production function would be most rewarding. There appear to be two obvious areas that merit such research. The first deals with the definition of the capital base to be appropriately ascribed to the labor variable. We repeatedly speak of the role of R&D expenditures in the development of the region's high-tech industries. Although it would be a most difficult allocation and measurement task, would it not seem appropriate to assign a part of the federal government's long-term investment in MIT's R&D capacity into the capital component of the production functions of high-technology firms? Surely, increments of R&D capital have played a crucial role in the development of these firms, and we know that their production processes are quite different from those of mature industries. Moreover, questions should be asked about the allocation of capital costs between the private and public sectors. A large part of the nation's R&D expenditures comes from the federal government. Does this mean that the lower-than-expected capital quotients in the high-tech firms are the result of a "free externality"?[17]

The second area of research would address the definition of "production worker" in the high-tech industries. We already know that these industries not only conduct research and manufacture products; many of them also sell and service their products. It may well be that the labor component in the production function is more inclusive than in the more traditional industries, but this is merely a working hypothesis.

### ***Regional Underinvesting in Public Capital***

At a time when New England has experienced substantial economic growth as a result of its development of high-technology industries, investment in the public infrastructure has declined. The outstanding net direct debt of Massachusetts' cities and towns, for example, declined from more than 5 percent of the gross state product in 1975 to only 2 percent in 1983. Would a decreasing emphasis on public capital spending to maintain and improve the infrastructure cause a bottleneck in the growth of the private sector and/or rising costs of production? Quite obviously, both factors are significant determinants of the region's longer-run competitive position.

The often stated but unproven view that the deterioration of roads, bridges, mass transit, and water and sewer systems will inhibit future growth has at least two critical research dimensions that must be addressed fully before the case is made that this is a significant economic problem area. The first is the need to document the specific extent of deterioration in public capital, and the second is the linkage between that deterioration and private-sector competitiveness.

With regard to the former, there is still considerable room for rational debate over the extent of deterioration in the region's infrastructure. An unpublished but widely circulated study by Marshall Kaplan for the Joint Economic Committee of the U.S. Congress seems to suggest that the infrastructure needs in New England are not as pressing as elsewhere. Specifically, he concludes that "the highest projected annual average per capita need for infrastructure is forecast for the South Central, followed by the South, the Midwest, and the West, with the lowest projected need being for the Northeast."[18]

But even a relatively slower deterioration in infrastructure in the region is still of concern. Additional analysis in this area has been launched by the Massachusetts Legislature's House Committee on Taxation as a prelude to addressing the Massbank proposal—Governor Michael Dukakis' plan to fund infrastructure repair. This research and the public policy debate on financing infrastructure improvements are certainly worth watching.

Finally, and with regard to the latter, a recent and important study on the current state of the northeastern states' infrastructure concluded the following:

> *Long-Term Economic Impact.* There is a surprisingly strong consensus among researchers that major water resource projects are *not* a critical factor in national economic growth and development. Such projects appear more likely to shift the location of economic growth from one region or location to another than to result in measurable additions to the national economy. Further, there is very little evidence that water resource projects make a critical difference to the industrial growth of a region or local area; other factors such as transportation, work force, and so on, appear to be more important locational criteria.[19]
>
> *Infrastructure Rehabilitation.* To date, there is virtually no published research on the economic impact of infrastructure investment or rehabilitation. Major studies are under way by HUD, EDA, and the Farmers Home Administration that should provide additional insight on this issue in the next year or two. Preliminary indications suggest that this is likely to prove a matter of considerable importance to the older cities of the nation, many of which are located in the Northeast.[20]

In a sense, this finding is more consistent with one's *a priori* expectations. Otherwise how could New England, especially Massachusetts, successfully have undergone such a fundamental industrial transformation to growth in the face of a badly deteriorated infrastructure? In any case, the linkage between the condition of the infrastructure and business investment is currently an unspecified research issue.

### *The Changing Demand for Entry-Level Labor*

Though not explicitly addressed here, comment should be made about the profound adjustment that is taking place in the region's labor markets. Increasingly it appears that a segmentation or duality in labor occupational demand has developed: that is, the demand for trained labor in New England will more and more fit into two categories. The first consists of a relatively few high-paying jobs in one part of the labor force: sophisticated engineers, scientists, and professional managers with graduate school training. However, the bulk of the jobs will be in the other part of the labor force—entry-level production workers as well as limited-skill white-collar professionals.[21] While this may well be "good news" for non-college-bound high school students, in terms of job opportunities, it also puts new pressures on the high school to encourage greater academic achievement among its students. Presumably this means better training in the core curriculum skills and, equally important, preparation for adaptability in the work place as the tasks, methods of production, and services provided undergo major change.

Significant new research on high-school curriculum reform is already under way on a number of fronts, but research is also needed in another area: identifying what high schools, vocational schools, and community colleges each can do best in preparing a competent entry-level workforce. This is the long-standing and troublesome real-world issue of program articulation. There is a significant gap in our understanding of the specific details affecting entry-level demand, and of the appropriate roles different institutions should play in meeting this demand in educational training—and thus a pressing need exists for a better definition of goals among the various kinds of institutions.

Finally, inasmuch as this issue touches on so many different and well-established institutional turfs, it is difficult to be certain what constitutes the appropriate research and policy entity to undertake such a project. Nonetheless, if the operational configuration has changed and continues to change for some time, the sooner we begin to make the appropriate educational adjustments, the greater the likelihood of the region's maintaining its relative competitive strength.

### *Maintaining the Excellence of Institutions of Higher Education*

A major theme expressed throughout this article has been the importance of establishing an environment that encourages entrepreneurship. As we have seen, universities and colleges that provide a first-rate education play a vital role in this process.

Nonetheless, there are problems that must be addressed if New England is to maintain its powerful advantage in higher education. Foremost among these is the difficulty in financing the costs of higher education, especially during a period when public resources are increasingly scarce. While there is an overall surplus capacity with respect to physical plant for higher education in the region, a long-overdue upgrading and expansion of research laboratories will require new sources of financing. Moreover, there is a need for financing noncapital costs in some academic fields, such as faculty and curricula development, in response to changing economic needs in the region.

Another potential problem relates to the declining pool of college-age residents and the attendant impact on aggregate educational capacity. The decline in the number of 18-year-olds is a nationwide phenomenon, but in Massachusetts that adjustment is even more severe. From 1979 until 1994, Massachusetts will have a 43 percent reduction in its 18-year-olds.

The dual problems of limited public resources and changing demographics suggest another item on the region's public-policy research agenda: the upward pressures on tuition costs and new sources, techniques, and mechanisms for financing these costs. This requires a continued dialogue, cooperative planning, and new collaborative arrangements among educators, government officials, and business leaders as well as efforts to help stretch our limited educational resources much further. These resources can be used to improve the capacity of colleges and universities to provide technology-oriented skill development.

As emphasized in a recent report by the Commission on Higher Education and the Economy of New England, however, skill development does not imply exclusively vocational skills; it also implies "the capacity to be a well-developed people capable of having independent thought."[22] This capacity for independent thought lies at the heart of New England's revitalization, for it is the driving force behind the process of technological innovation and adaptation that has been—and remains—the key to the region's economic growth.

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## Notes

1. Unemployment rates as of July 1984.
2. In the past, there was a tendency to equate the term *high technology* with a very narrow spectrum of enterprises, primarily firms producing computers and semi-conductors. Increasingly, however, high tech has come to be viewed as encompassing a wide array of advanced-technology industries, including health care, communications systems, pharmaceuticals, publishing, and scientific instruments. Even more broadly, high-tech industries can be viewed as knowledge-intensive manufacturing industries actively engaged in developing new products and processes.
3. The principal small-firm beneficiaries of government R&D have been in the electronics industry, where much early military R&D went toward unproven technologies that have since found broad commercial application.
4. This line of reasoning is drawn from J. H. Hekman and J. S. Strong, "The Evolution of New England Industry," *New England Economic Review,* March/April 1981, pp. 35-46.
5. "Location of High-Technology Firms and Regional Economic Development," staff study of the Joint Economic Committee, U.S. Congress (Washington, D.C.: U.S. Government Printing Office, 1982).
6. See "Universities Emerge As an Important Catalyst in the New Business Development Process," *The Venture Capital Journal,* August 1983, pp. 7-12.
7. "Venture Capital Disbursements in 1981: A Statistical Overview," *The Venture Capital Journal,* June 1982, pp. 7-11.
8. "States Venturing into Venture Capital: Opportunity or Problem," *The Venture Capital Journal,* September 1983, p. 10.
9. Benjamin H. Stevens, "Regional Cost Equalization and the Potential for Manufacturing Recovery in the Industrial North." Unpublished paper presented at a conference sponsored by the State University of New York at Albany, April 1982.
10. Empirical analyses undertaken by Bank of Boston's economists have shown that the production processes of high-technology firms are heavily labor intensive. This can be most easily seen when one examines the capital investment (for plant and equipment) required to create each job in overall manufacturing and the comparative capital spending figures for high-technology manufacturing during the critical years of accelerated revitalization in New England.

**Capital Investment Per Worker Entering the Labor Force, 1975-1980**

| | Cost per Job (in thousands) |
|---|---|
| United States | |
| All manufacturing | $243.8 |
| New England | |
| All manufacturing | $ 70.7 |
| High-technology industries | $ 33.8 |

*Source:* U.S. Department of Commerce, *Survey of Current Business,* selected issues, 1975-81, and unpublished data on capital spending in New England developed by the Economics Department, Bank of Boston.

11. Lipset notes that it is the fabric of social, educational, and cultural factors that produces a steady stream of entrepreneurial behavior. He also reminds us that such factors are not easily replicated. See his "Values, Education, and Entrepreneurship," in Seymour Martin Lipset and Aldo Solari, eds., *Elites in Latin America* (New York: Oxford University Press, 1967).

12. See Lynn E. Browne, "Can High-Tech Save the Great Lakes States?" *New England Economic Review,* November/December 1983, pp. 23-24.

13. Robert M. Ady, "Locational Determinants for High-Tech Firms," address delivered at the University of Rhode Island, May 24, 1983.

14. The process described here is technically known as agglomeration—that is, the clustering of a support network of companies to exploit market opportunities. Agglomeration and spin-offs are mutually reinforcing. The creation of new firms increases further corporate activity, reinforcing the comparative technological advantages of the area.

15. See, for example, C. C. Killingsworth, "Automation, Jobs, and Manpower: The Nation's Manpower Revolution," U.S. Senate, Subcommittee on Employment and Manpower of the Committee on Labor and Public Welfare, Hearings, 88th Congress, 1st session, Washington, D.C., 1963; B. Berman, "Alternative Measures of Structural Unemployment," in A. M. Ross, ed., *Employment Policy and the Labor Market* (University of California); and N. Simler, "Long-Term Unemployment: The Structural Hypothesis and Public Policy," *American Economic Review* 54 (December 1964), pp. 985-1001.

16. Barry Bluestone, "Occupational Transition in Massachusetts Labor Markets," unpublished manuscript, Boston College, 1974; Bennett Harrison, "The Economic Development of Massachusetts," Special Report to the Joint Committee on Commerce and Labor of the Massachusetts General Court, November 1974.

17. Some work has already been undertaken in this field; see especially E. J. Malecki, "Public and Private Sector Interrelationships, Technological Change and Regional Development," in *Papers of the Regional Science Association* 47 (1981), pp. 121-38; P. Horowitz, "Direct Government Funding of Research and Development: Intended and Unintended Effects on Industrial Innovation," in C. T. Hill and J. M. Ulterback, eds., *Technological Innovation for a Dynamic Economy* (New York: Pergamon, 1979), pp. 255-91.

18. Marshall Kaplan et al., *Report on the Nation's Infrastructure Needs,* unpublished paper presented to the Joint Economic Committee, U.S. Congress, 1983. See the chapter entitled "Regional Comparisons."

19. David A. Grossman, *The Economic Impact of Water Projects.* The Northeast Water Resources Project (New York: Nova Institute, September 1979).

20. Ibid.

21. For specific details of this issue see J. M. Howell's remarks published in *The Two-tier Labor Market,* proceedings of a symposium at Rivier College, Nashua, New Hampshire, October 1983. Also see Robert Kuttner, "The Declining Middle," *The Atlantic,* July 1983, pp. 60-72, and Ray Marshall's comments in *The Texas Observer,* April 6, 1984.

22. See *A Threat to Excellence,* Commission on Higher Education and the Economy of New England (Boston: New England Board of Higher Education, March 1982).

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# The Demography of New England: Policy Issues for the Balance of This Century

*George S. Masnick*

*New England's rapidly aging population, its traditionally low fertility rate, and the fact that net migration from other regions and abroad should continue to be close to zero means that only very slow population growth will characterize the region for the balance of this century. Nevertheless, New England's demographic metabolism is exceptionally dynamic: (1) the numbers of different age groups are growing at very different rates; (2) a redistribution of population is occurring from the southern to northern tier states; (3) within each state population is dispersing into nonmetropolitan areas; and (4) metropolitan areas, both central and suburban, are quickly changing their demographic composition. Each of these trends has different public policy implications.*

Between 1970 and 1980 the population in the six-state New England region increased by slightly more than 4 percent. This was a relatively poor performance compared with the almost 13 percent increase in population experienced by the region during each of the two previous decades, and poorer still compared with population growth rates that were five times as large during the 1970s in the South and West (Table 1). The Census Bureau estimates that New England will approach zero population growth by the year 2000. New England's rapidly aging population, its traditionally low fertility rate, and the fact that net migration from other regions and abroad should continue to be close to zero are the reasons that slow growth should prevail for the region as a whole for the remainder of this century and beyond. Slow growth, however, should not be interpreted as a sign of demographic stagnation. On the contrary, New England's population is exceptionally dynamic.

Four aspects of New England's demographic metabolism deserve special attention because of their general implications for public policy:

New England has *an extremely uneven age structure*. Over time, an uneven age structure results in a poor matchup between people and classrooms, jobs, housing, hospital beds, recreation facilities, etc. One aspect of the changing age structure in New England worthy of special attention is the projected decline in the size of the entry-level labor force and the rapid aging of those currently employed.

Within the six-state region there are sharp differences between demographic processes in the northern tier states (Maine, New Hampshire, and Vermont) and the southernmost tier states (Massachusetts, Rhode Island and Connecticut). This variability is resulting in a *redistribution of population* among the New England states.

*George S. Masnick is a Research Associate at the Joint Center for Housing Studies, Harvard University and Analysis and Forecasting Inc., Cambridge, Massachusetts.*

Between 1970 and 1980 nonmetropolitan areas grew at rates that were more than 50 percent higher than metropolitan growth rates, resulting in a continuing shift in population to outlying suburbs and small towns. A continued *dispersion of population* should be expected for the remainder of this century, and it will place constant strain on existing infrastructure, whereas areas experiencing population decline will have fewer resources available for the maintenance of existing infrastructure.

Within metropolitan areas, where the majority of New England's residents still live, *changes in the demographic structure of both central cities and the suburbs* will continue to alter their socio-demographic profiles. These changes include the aging of the suburban populations, decline in the dominance of the traditional nuclear family, and the continued prevalence of poverty endemic to certain categories of single-parent, single-person and single-earner households.

These changes will lead to a New England in the year 2000 that will contain approximately the same number of people as in 1980, but which will be significantly different in its demographic composition. These changes will call for increased awareness and appropriate responses on the part of both the public and private sectors. Some responses may actually influence the demographic trends. For the most part, however, we need to see the changes as inevitable constraints and opportunities for planning and management decisions.

*Table 1*

**Population of U.S. Census Regions, 1950-1980**

| | Population (thousands) | | | |
|---|---|---|---|---|
| Census Region | 1950 | 1960 | 1970 | 1980 |
| Total U.S. | 151,375 | 179,322 | 203,296 | 226,502 |
| New England | 9,315 | 10,509 | 11,848 | 12,349 |
| Ratio: New England/ Total U.S. | .062 | .059 | .058 | .055 |
| Me. | 914 | 969 | 994 | 1,125 |
| N.H. | 533 | 607 | 738 | 921 |
| Vt. | 378 | 390 | 445 | 511 |
| Mass. | 4,691 | 5,149 | 5,689 | 5,737 |
| R.I. | 792 | 859 | 950 | 947 |
| Ct. | 2,007 | 2,535 | 3,032 | 3,108 |
| Northeast (*Me., N.H., Vt., Mass., R.I., Ct., N.Y., N.J., Pa.*) | 39,478 | 44,677 | 49,057 | 49,137 |
| North Central (*Ohio, Ind., Ill., Mich., Wis., Minn., Iowa, Mo., N.D., S.D. Kans., Neb.*) | 44,462 | 51,619 | 56,585 | 58,851 |
| South (*Del., Md., D.C., Va., W. Va., N.C., S.C., Ga., Fla., Ky., Tenn., Ala., Miss., Ark., La., Okla., Tex.*) | 47,244 | 54,973 | 62,812 | 75,348 |
| West (*Mont., Ida., Wyo., Colo., N.M., Ariz., Utah, Nev., Wash., Oreg., Cal., Alas., Hi.*) | 20,191 | 28,053 | 34,842 | 43,166 |

*(continued on next page)*

*Table 1* *(continued from previous page)*

**Population of U.S. Census Regions, 1950-1980**

| Census Region | Rate of Growth over Decade (%) 1950-60 | 1960-70 | 1970-80 |
|---|---|---|---|
| Total U.S. | 18.5 | 13.4 | 11.4 |
| New England | 12.8 | 12.7 | 4.2 |
| Ratio: New England/ Total U.S. | .692 | .947 | .368 |
| Me. | 6.0 | 2.5 | 13.2 |
| N.H. | 13.9 | 21.6 | 24.8 |
| Vt. | 3.2 | 14.1 | 14.8 |
| Mass. | 9.8 | 10.5 | 0.8 |
| R.I. | 8.5 | 10.5 | −0.3 |
| Ct. | 26.3 | 19.6 | 2.5 |
| Northeast (*Me., N.H., Vt., Mass., R.I., Ct., N.Y., N.J., Pa.*) | 13.2 | 9.8 | 0.2 |
| North Central (*Ohio, Ind., Ill., Mich., Wis., Minn., Iowa, Mo., N.D., S.D. Kans., Neb.*) | 16.1 | 9.6 | 4.0 |
| South (*Del., Md., D.C., Va., W. Va., N.C., S.C., Ga., Fla., Ky., Tenn., Ala., Miss., Ark., La., Okla., Tex.*) | 16.4 | 14.3 | 20.0 |
| West (*Mont., Ida., Wyo., Colo., N.M., Ariz., Utah, Nev., Wash., Oreg., Cal., Alas., Hi.*) | 38.9 | 24.2 | 23.9 |

*Source:* U.S. Census Bureau, *Historical Statistics of the United States: Colonial Times to 1970; Advanced Reports* 1980 Census of Population and Housing.

## Uneven Age Structure

Probably the most important demographic event of the twentieth century has been the post-World War II "baby boom" and subsequently the "baby bust." New England has been especially hard hit by the fertility rate swing because its pre-World War II fertility levels were already extremely low, second only to the Mid-Atlantic region (New York, New Jersey and Pennsylvania), and its boom took fertility rates to just above the national average in 1960. By 1980, New England's fertility rate fell to 87 percent of the national average. And statistics suggest there has been little change in New England's relative position during the first half of the 1980s. New England women continue to bear their children later and have smaller families compared with women in the rest of the country.

The twentieth century fertility swing has resulted in a population in which at any given time, the numbers of different age groups are growing at very different rates. Table 2 compares growth in eight age groups for the decade 1970-80 with that projected by the Bureau of Census for the last two decades of this century. We see that the 15-24, 25-34 and 35-44 age groups are expected to experience especially sharp declines during the next decade for the region as a whole and for each New England state as well. On

*Table 2*

**Percentage Change in Population in Different Age Groups for New England States, 1970-2000**

| Age Group and State | 1970-1980 Observed | 1980-1990 Projected[a] | 1990-2000 Projected[a] |
|---|---|---|---|
| **Under 15** | % | % | % |
| New England | −21.5 | − 6.5 | − 3.6 |
| Me. | −10.1 | 0.6 | 0.2 |
| N.H. | − 3.3 | 15.0 | 15.7 |
| Vt. | −11.2 | 5.6 | 3.7 |
| Mass. | −25.2 | −10.7 | − 7.7 |
| R.I. | −23.1 | − 9.8 | − 6.7 |
| Ct. | −24.2 | − 9.6 | − 6.6 |
| **15-24** | | | |
| New England | 15.4 | −22.5 | −14.4 |
| Me. | 21.2 | −15.4 | − 5.5 |
| N.H. | 32.6 | − 5.7 | 4.6 |
| Vt. | 24.1 | −16.0 | − 2.5 |
| Mass. | 12.4 | −25.6 | 19.2 |
| R.I. | 3.3 | −24.4 | −18.3 |
| Ct. | 13.5 | −24.9 | −17.2 |
| **25-34** | | | |
| New England | 43.0 | 12.9 | −28.4 |
| Me. | 62.4 | 16.6 | −15.7 |
| N.H. | 76.3 | 31.6 | − 5.8 |
| Vt. | 65.3 | 17.1 | −16.1 |
| Mass. | 40.2 | 9.7 | −25.9 |
| R.I. | 36.4 | 11.6 | −24.7 |
| Ct. | 31.0 | 10.6 | −25.1 |
| **35-44** | | | |
| New England | 4.1 | 43.9 | 10.8 |
| Me. | 12.6 | 58.2 | 14.3 |
| N.H. | 31.3 | 74.2 | 29.1 |
| Vt. | 22.9 | 60.8 | 14.5 |
| Mass. | − 0.1 | 42.1 | 7.3 |
| R.I. | − 5.0 | 44.3 | 9.1 |
| Ct. | 3.7 | 30.5 | 8.4 |
| **45-54** | | | |
| New England | − 9.0 | 6.4 | 41.3 |
| Me. | 2.0 | 11.1 | 55.4 |
| N.H. | 10.7 | 31.7 | 70.4 |
| Vt. | 3.0 | 24.1 | 57.0 |
| Mass. | −12.6 | 1.8 | 38.0 |
| R.I. | −15.7 | − 0.3 | 41.4 |
| Ct. | −11.3 | 5.6 | 28.0 |

*(continued on next page)*

*Table 2* *(continued from previous page)*

**Percentage Change in Population in Different Age Groups for New England States, 1970-2000**

| Age Group and State | 1970-1980 Observed | 1980-1990 Projected[a] | 1990-2000 Projected[a] |
|---|---|---|---|
| **55-64** | % | % | % |
| New England | 12.2 | − 9.9 | 7.2 |
| Me. | 13.4 | − 1.0 | 11.0 |
| N.H. | 25.6 | 9.5 | 31.7 |
| Vt. | 12.4 | 2.2 | 24.2 |
| Mass. | 8.3 | −13.1 | 2.2 |
| R.I. | 12.2 | −15.8 | 0.3 |
| Ct. | 18.4 | −11.7 | 6.2 |
| **65+** | | | |
| New England | 19.6 | 17.5 | 2.4 |
| Me. | 23.5 | 17.0 | 7.2 |
| N.H. | 31.9 | 30.3 | 10.3 |
| Vt. | 23.0 | 17.5 | 9.4 |
| Mass. | 14.7 | 12.8 | − 1.6 |
| R.I. | 22.3 | 17.8 | − 1.3 |
| Ct. | 26.9 | 23.4 | 3.3 |
| **All Ages** | | | |
| New England | 4.3 | 3.1 | 0.3 |
| Me. | 13.2 | 9.3 | 6.4 |
| N.H. | 24.8 | 23.7 | 19.7 |
| Vt. | 14.8 | 12.3 | 3.7 |
| Mass. | 0.3 | − 0.6 | − 3.7 |
| R.I. | − 0.3 | 0.4 | − 2.6 |
| Ct. | 2.5 | 0.9 | − 2.3 |

*Source:* 1970 Census of Population, *General Characteristics;* 1980 Census of Population, *Supplementary Reports,* PC80-51-1 (May 1981); *Current Population Reports,* P-25, No. 937 (August 1983).

[a] Census Bureau mid-series projections assuming 1970-80 migration patterns.

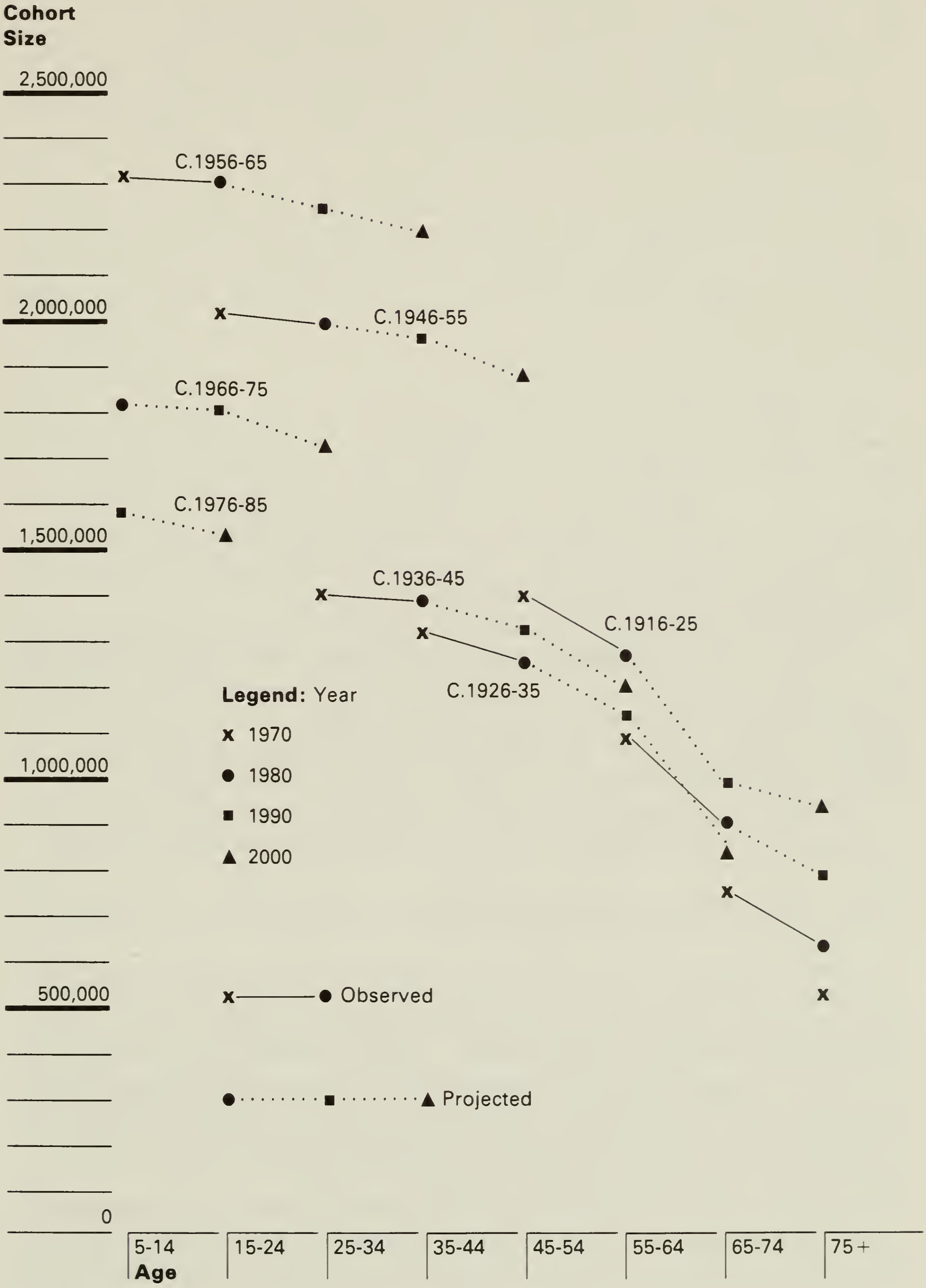
*Note:* Observed change 1970-80 from April 1 to April 1; projected change 1980-1990 from April 1 to July 1; projected change 1990-2000 from July 1 to July 1.

the other hand, for New England as a whole, and within each state, only the number of those over age 65 is expected to increase over the next decade at a rate close to the rate of increase observed from 1970 to 1980.

Another way of looking at this process, termed *disorderly cohort succession,* is presented in Figure 1. Reading from left to right, we follow the size of ten-year birth cohorts as they age between 1970 and 2000. Such decennial cohorts born before 1945 in New England numbered from between 1.25 and 1.5 million and, because of their approximately equal numbers, succeeded one another in the age structure in quite an orderly fashion. Cohorts born between 1946 and 1965, however, totaled between 2.0 and 2.3 million. These cohorts have put a strain on the orderly process of cohort suc-

*Figure 1*

**Disorderly Cohort Succession**
New England States, 1970-2000



*Source:* See Table 3.

cession. The problem has been one of society trying to accommodate too many people with too few slots in the social structure. Over the past three decades, these slots have been sequentially: maternity beds, elementary schools, college admissions, entry-level jobs, and rental apartments. For the balance of this century, the slots in short supply will be single-family-owned housing, job promotions, accommodations for leisure activities, and increasingly, social welfare programs benefiting the elderly.

The down side of disorderly cohort succession has occurred as the number of cohorts born since 1965 has dropped quickly to almost "normal" size. This decline is not without shrinking pains. We have already witnessed the closing of neighborhood elementary schools, and have begun to experience shortages in the entry-level work force, particularly in retail sales.

Youth unemployment is expected to decline dramatically, and when it does occur during the remainder of this century, unemployment will be more a product of poor match-up between skill levels and job requirements than a poor ratio of new jobs to new job seekers. Crime rates will likewise fall in the future, both because there will be fewer teenagers and young adults to commit crimes, and because this group will be more likely to have jobs that pay reasonable wages (assuming entry-level wage levels will rise to help regulate imbalances in supply and demand).

Higher education will face new challenges because of the shrinking numbers in the traditional student age population, but new opportunities will be found in the need to retrain those in the older baby-boom cohorts when job security and promotions are blocked by their own large numbers. And should the smaller number of cohorts born during the 1965-80 period have small families themselves (as did their parents' generation), the echo of the baby bust, due to be set in motion in the late 1990s, would truly create new dimensions to the problem of shrinking cohort size.

For the next ten to fifteen years, however, the major consequences of disorderly cohort succession will be felt by those who are already adults. The reversal in the strong positive growth of student and entry-level labor force ages will pose serious problems for those colleges and employers who have become accustomed to the excess demand created by the baby boom glut. At colleges and in the work place, *re*cruitment, *re*training and *re*tention will become the three Rs. The old strategy of selecting only the "best" of the young applicants and then treating them shabbily will no longer work as it did when an overabundance of well-educated baby boomers dominated the entry pools.

With a healthy economy and a growing shortage of young adults, New England will need to husband its student and young adult labor force with far greater care. Primary and secondary school students, a growing percentage of whom are minorities in many communities, will need to receive the best education in basic reading, writing, and math skills. The current crop of high school dropouts and graduates with less than adequate formal education will need remedial programs. Linking remedial training to definite job opportunities will help ensure lower dropout rates, so the involvement of employers in training programs will be beneficial. If the reward is not only a job, but a well-paying job with clear opportunities for career mobility, remedial training programs could become much more successful than those of the past.

Sometimes it is not a poor match-up between job requirements and employee skills that stands in the way of hiring and promotion. Attitudes, prejudices and expectations on the part of both employers and workers play an equally important role. Three groups who have been relatively undervalued human resources will take on new importance in the decades ahead. These are minorities, women (particularly married women and mothers), and middle-aged and older persons, of all social and demographic characteristics. Here, the programs and policies will be a lot less concrete than in the case of the three Rs. Sensitivity to the special needs of working mothers, handicapped persons, and minorities with language problems must be balanced with a recognition that such workers must be treated in most ways like any others. Otherwise, prejudice will maintain the cultural barriers to full employment that have been erected over the years.

Nor is it exclusively in the realms of educational initiatives or employer/employee contracts that policies can help to offset the effects of a shrinking labor force. Long, stressful, or expensive commutes to and from work take their toll on the ability to recruit workers and on their productivity at the work place. The proximity of housing and day care to the workers' jobs, the cost and quality of public transportation, and the maintenance of highway and parking facilities all figure prominently in the goal of achieving a better match-up between people and jobs, and their greater productivity.

### *Mobility Patterns*

Transportation and job location policies will take on more significance because of two additional and unalterable facts about the future of New England's labor force: it will get older and it will be less mobile. The projected rapid growth of the 35- to 44-year-old and 45- to 54-year-old segments of the population will mean that the median age of the labor force will increase by over five years by the end of the century.[1]

The sifting and sorting that normally takes place among people and jobs is greatly enhanced when the labor force is young because young adults are more willing to relocate to where the job opportunities are to be found. In contrast, older workers are much less geographically mobile. Table 3 presents the percentage of residents in three age categories who did not change residence between 1975 and 1980. The three groups span the age range through which the baby-boom workers will pass during the next two decades. Whereas only 22 percent of all 25- to 29-year-olds in the United States were living in the same house after five years, fully two-thirds of all 45- to 49-year-olds had not moved. In New England, almost three-quarters of 45- to 49-year-olds had not moved after five years, reflecting the greater immobility of New Englanders of all ages.

The differences between mobility rates in the Northeast and those in the West are especially striking. When workers do change jobs in the future, fewer changes will involve residential moves as well. Thus, job changes that do not also involve a change in residence will tend to increase the burden placed on all levels of the transportation system.

Since before World War II, net migration from outside New England has not been much of a major factor in the growth pattern of the region as a whole. Net migration was close to zero in both the 1950-60 and 1970-80 decades and was only 3 percent in the 1960s. Zero net migration can result from a large amount of migration into the region (counterbalanced by a large outmigration), as well as by small gross migration flows in and out. Focusing only on immigrants from other states, the data reveal a slightly lower rate into New England than the national average, with 9.1 percent of all 1980 residents over the age of five having lived in another state in 1975 (Table 4). Moreover, the vast majority of immigrants from other states came to New England from other Northeast states (63.7 percent), whereas a majority of interstate immigrants living in other regions in 1980 came from states outside the region in which they now

*Table 3*

**Percentage of Residents Living in Same House in both 1975 and 1980 in Selected Age Groups for Regions and New England States**

| | Age Group | | | |
|---|---|---|---|---|
| | All Ages Over 5 | 25-29 | 35-39 | 45-49 |
| | % | % | % | % |
| Total U.S. | 56.9 | 22.0 | 49.5 | 68.4 |
| New England | 59.1 | 24.0 | 54.9 | 73.9 |
| Me. | 56.9 | 24.0 | 56.4 | 71.9 |
| N.H. | 51.6 | 18.6 | 50.2 | 66.6 |
| Vt. | 54.4 | 20.7 | 54.9 | 71.3 |
| Mass. | 61.0 | 25.1 | 57.3 | 76.7 |
| R.I. | 60.4 | 26.6 | 55.1 | 73.7 |
| Ct. | 59.0 | 23.2 | 51.8 | 72.4 |
| Northeast | 61.7 | 27.4 | 57.3 | 75.3 |
| North Central | 55.4 | 21.3 | 52.6 | 71.7 |
| South | 52.4 | 23.4 | 48.5 | 66.5 |
| West | 43.8 | 15.3 | 38.7 | 58.6 |

*Source:* 1980 Census of Population, *Detailed Characteristics.*

reside. In New Hampshire, the New England state having the highest share of its population coming from outside of the state (18.5 percent, twice the New England average), 76 percent came from other states in the Northeast. Even among the highly mobile 25-29 age group, where 32 percent of New Hampshire's 1980 residents were recent interstate immigrants, percentage from within the Northeast holds firm. State-to-state migration flows between 1975 and 1980 have not yet been released by the Bureau of the Census, but if findings from the 1970 census are any indication, we can estimate that the vast majority of interstate immigrants from the Northeast living in New England continue to come from within the region itself.

It is therefore clear that state boundaries within the region are a good deal more permeable than state boundaries that define the region. In other words, demographic flows among New England states appear to supplement and reinforce cultural and economic ties and help give greater definition to the region.

The combination of New England's changing age structure and already low mobility rates leads to an important consequence for human resource policy. The vast majority of what will be New England's labor force in the year 2000 already lives and works in the region today. As this labor force ages and becomes even less mobile, maintaining a good match-up between workers' capabilities and job requirements will mean that all of the principal actors (employers, higher education, labor unions, government, etc.) think more in terms of what present workers can offer. Lynn Browne has shown that New England workers already have quite a lot to offer.[2] They are attached to their jobs (higher participation rates, less time lost from strikes), are well educated, intelligent, and highly skilled. Strangely, in spite of these qualifications, they also appear to be willing to work for relatively low wages.[3] These are all characteristics which make further investment in New England's workers an attractive allocation of resources with prospects of good payoffs. While many fear that an aging and relatively immobile work-

*Table 4*

**Percentage of 1980 Residents Age 5 and Older Living in Another State in 1975 by Region of Residence in 1975**

| Region of Residence in 1980 | All Interstate Moves as a Percent of Total | Region of Residence in 1975 of Interstate Migrants: Northeast | North Central | South | West |
|---|---|---|---|---|---|
| | % | % | % | % | % |
| Total U.S. ........ | 9.7 | 22.5 | 25.6 | 31.4 | 20.5 |
| New England .... | 9.1 | 63.7 | 10.3 | 17.2 | 8.8 |
| Me. ............ | 10.7 | 63.1 | 8.8 | 18.0 | 10.1 |
| N.H. ............ | 18.5 | 76.1 | 6.1 | 11.4 | 6.4 |
| Vt. ............. | 14.3 | 72.6 | 7.1 | 12.9 | 7.4 |
| Mass. ........... | 7.0 | 59.5 | 12.2 | 18.6 | 9.7 |
| R.I. ............. | 8.7 | 67.8 | 7.9 | 16.8 | 7.5 |
| Ct. ............. | 9.3 | 59.4 | 12.2 | 19.4 | 9.0 |
| Northeast ........ | 6.1 | 54.5 | 12.8 | 23.4 | 9.3 |
| North Central .... | 7.0 | 12.2 | 44.4 | 26.9 | 16.5 |
| South .......... | 11.9 | 21.7 | 22.4 | 43.5 | 12.4 |
| West ........... | 13.4 | 14.6 | 23.6 | 19.9 | 41.9 |

*Source:* 1980 Census of Population: *Detailed Characteristics,* various state volumes.

force will increase the incentives for employers to automate and invest in machines instead of people, such policies are perhaps less likely to displace existing workers. Instead, high technology might well address problems that arise from the anticipated shortage of new entry-level workers; that is, automation of repetitive, low-level jobs could reduce the need for these employees. And at the same time, the new technological solution in the work place may depend on the older, experienced existing workers for their implementation.

## Redistribution of Population

During the post-World War II period, there has been a swing in migration among the New England states—first from north to south, then from south to north. During the 1950s the fastest growing state was Connecticut, its growth fueled by high natural increase (the baby boom) and high net migration. The latter factor is significant for the entire region in that much of the outmigration experienced by Maine and Vermont in the 1950s was into the southern tier (including southern New Hampshire). By 1980, however, the population flows had reversed: Massachusetts, Rhode Island, and Connecticut all experiencing net outmigration, and Maine, New Hampshire, and Vermont experiencing strong gains (Table 5). This general growth pattern is expected to continue into the next decade, resulting in a shift of population northward.

The symbiosis of population movements among the six states in the region is important to underscore. Part of the explanation for what might appear as migratory provincialism within New England can be accounted for by the great diversity that exists within the region. During the great rural depopulation of the 1950s, migrants from Vermont, Maine, and New Hampshire needed to go only as far as Connecticut to find a burgeoning economy in aerospace, insurance, and light manufacturing. During the high-

*Table 5*

**Components of Growth in New England States: 1950-1980**

| | 1950-1960 | | |
|---|---|---|---|
| | Natural Increase | Net Migration | Total Growth |
| | % | % | % |
| New England | 12.6 | 0.2 | 12.8 |
| Me. | 12.1 | − 6.1 | 6.0 |
| N.H. | 11.5 | 2.4 | 13.9 |
| Vt. | 13.2 | −10.0 | 3.2 |
| Mass. | 9.8 | 0.0 | 9.8 |
| R.I. | 11.8 | − 3.3 | 8.5 |
| Ct. | 14.6 | 11.7 | 26.3 |

| | 1960-1970 | | |
|---|---|---|---|
| | Natural Increase | Net Migration | Total Growth |
| | % | % | % |
| New England | 9.7 | 3.0 | 12.7 |
| Me. | 9.6 | − 7.1 | 2.5 |
| N.H. | 10.2 | 11.4 | 21.6 |
| Vt. | 10.3 | 3.8 | 14.1 |
| Mass. | 9.1 | 1.4 | 10.5 |
| R.I. | 9.0 | 1.5 | 10.5 |
| Ct. | 11.2 | 8.4 | 19.6 |

| | 1970-1980 | | |
|---|---|---|---|
| | Natural Increase | Net Migration | Total Growth |
| | % | % | % |
| New England | 4.1 | 0.1 | 4.2 |
| Me. | 5.1 | 8.1 | 13.2 |
| N.H. | 6.1 | 18.7 | 24.8 |
| Vt. | 5.8 | 9.0 | 14.8 |
| Mass. | 3.5 | − 2.7 | 0.8 |
| R.I. | 3.6 | − 3.9 | − 0.3 |
| Ct. | 4.2 | − 1.7 | 2.5 |

*Sources: Statistical Abstract of the United States,* 1961, 1972; *Advance Report,* 1980 Census of Population and Housing, PHC 80, various state volumes; *Monthly Vital Statistics Reports,* various issues, 1972-1980.

technology revolution of the late 1970s, the magnet for the young was the area along the Massachusetts/New Hampshire border. Cape Cod has continued (as it has throughout the post-World War II period) to attract retirement migrants from within the region, and Boston has continued to attract students. When the nonmetropolitan revival began, the northern tier states were well positioned to lay claim to those metropolitan migrants in search of a slower pace of life. For those seeking low taxes, New Hampshire was just the place; for others more willing to pay for good public services, Massachusetts was their destination. It appears that a normal reluctance to move on the part of New England residents is complemented by a tendency on the part of those who do move to be largely satisfied with the alternatives offered close at hand. And the alternatives are legion.

## Dispersion of Population

One important dimension of the recent shift in population from south to north has been the propensity on the part of those who do not move to favor residence outside metropolitan areas. Indeed, this shift in migration favoring nonmetropolitan growth has been a nationwide phenomenon.[4] In New England, this trend has been manifest since 1950, but during the early part of the post-World War II period, it took place mostly in the southern tier states. For example, during the past decade Massachusetts experienced the most significant growth of its nonmetropolitan population, which increased by 36 percent, compared to a 9 percent increase in Connecticut and a 14 percent loss in Rhode Island. During the same ten-year period, the nonmetropolitan population in the three northern tier states grew by between 14 and 21 percent.[5]

It is clear that rejuvenated nonmetropolitan growth is a powerful force shaping the distribution of population throughout the United States. One important component is simply the spillover of metropolitan population into adjacent nonmetropolitan areas. These are often places to which jobs as well as people are moving. Growth in other areas is exclusively residential, a process of "suburbanization" which has been occurring for many decades. What is new is the revived growth of the more remote nonmetropolitan areas. Many of these nonadjacent, nonmetropolitan destinations appear to offer less in the way of economic opportunities than do metropolitan locations. This has led many analysts to conclude that factors other than employment opportunities, perhaps involving lifestyle choices, are important in the new migration patterns. The interstate highway system allowing easier access to metropolitan centers, the shift toward less dependence on earned income, and the re-emerging importance of home-based employment could support those lifestyle choices and contribute to the new growth pattern.

In some cases, nonmetropolitan areas are offering unusually attractive economic opportunities, such as occurs when a large new employer locates in the area. The most dramatic example of such growth in New England is in the countryside around Danbury, Connecticut, where Union Carbide has moved its corporate headquarters from New York City. In other cases, an attractive balance among economic, family, community, and leisure activities appears to be the drawing card. Still other areas are attractive simply because of their remoteness: those people frustrated with urban social problems will endure significant economic, cultural and social deprivation, if only for short periods, in order to "get away." It should be concluded that because nonmetropolitan growth appears to be driven by so many engines, it is likely to be sustained for the remainder of this century and beyond. Such a trend will place new challenges before us, since many of the decisions made during the early post-World War II period concerning the location of government services, health care institutions, educational facilities, and housing were premised upon a continuing growth of metropolitan population.

The impact of the gradual shift in population from metropolitan to nonmetropolitan areas often has a dramatic impact at the local level. Small nonmetropolitan communities who find their populations suddenly growing by 50 percent or more in the course of one decade, and then growing slowly or not at all the next, find planning for growth exasperating. The impact on large metropolitan areas is less dramatic but more inexorable.

## Changes within Metropolitan Areas

During the 1970s, 86 percent of metropolitan central cities in the Northeast lost population, as did many of their inner suburbs. Since three-quarters of New England's population live in its twenty-nine Standard Metropolitan Statistical Areas (SMSA)[6] (about the same fraction as for the United States as a whole), we need to take a closer look at the dimensions of metropolitan area population change. In addition to loss of population, other demographic shifts in cities and suburbs include racial turnover, the "graying" of the suburbs and consequent decline in the presence of children, the growth of nonfamily households, the increase in family households headed by women, the growth of single-person households, and the increasing proportion of the population living in poverty. All of these trends are interrelated, a fact that partly explains their inexorable qualities. All have important implications for public policy.

Trends and differentials in population growth and changes in age structure for cities and suburbs are even more extreme than state or regional averages because of the effects of age selectivity on migration. (See Tables 3 and 4.) Most demographic changes taking place in metropolitan areas today were set in motion during the 1950s, when young married couples, who were to become parents in the baby boom, left the cities and settled the suburbs. Age structures in cities became rapidly skewed toward the older ages as young adults and children moved out, while suburban population growth from in-migration was further enhanced by the younger age structure, which produced many births and few deaths. The vacated urban neighborhoods were gradually repopulated by other groups, often nonwhite and Hispanic immigrants and their children and later by the children of the original suburbanites. Thus, cities have swung back toward younger age composition over the past two decades. Suburbs, on the other hand, began to grow older as they stopped growing: the baby boomers moved away to college or a job, while their parents, by and large, stayed put. By 1980, the gap between the age structures of cities and suburbs had narrowed considerably, with suburbs of most SMSAs in New England having only a slightly higher percentage of population under the age of nineteen compared with core cities, and cities a slightly higher percentage of their population over the age of 65 compared with suburbs (Appendix A). Soon the majority of senior citizens will live in the inner suburbs, and many cities will look youthful and energetic by comparison. With more suburban families entering the "empty nest" period, and few young couples able to afford close-in suburban housing, there is little in the demographic equation to help counterbalance the aging of their populations through migration or natural increase. With aging populations, suburban growth should turn negative in many areas, as has already occurred in the suburbs of Boston and Pittsfield, Massachusetts, and Stamford, Connecticut (Appendix A).

The prognosis for population growth and age structure change in central cities is a bit more uncertain. If the baby-boom cohorts living in cities continue to forego marriage and childbearing and do not move out as rapidly when they approach middle age as did their predecessors, the size of cities that have been losing population will tend to stabilize over the balance of this century. If, on the other hand, the long-term trend toward out-migration of those in their thirties and forties is sustained, cities will continue to lose population. Future population loss in cities seems almost to be guaranteed for a variety of other reasons as well. The baby-bust cohorts will not be in large enough numbers to replace the baby boom cohorts as the generations succeed one another. Furthermore, if minorities in cities like Boston or Hartford (which contain sizeable black and Hispanic populations) are gradually able to overcome economic and social barriers and move out to the suburbs, further central city population loss will be registered. Moreover, if nonmetropolitan areas and fast growth regions in the South and West exercise a strong pull on young adults who might otherwise gravitate toward New England cities, the consequence will be even greater population decline than is now projected. Finally, if the trend toward the formation of smaller and smaller households persists, urban population will likewise tend to decline. Since opportunities to increase the housing stock in cities are limited, smaller households translate into fewer people overall. This latter point is not well understood by many who have interpreted recent population losses in central cities purely in economic terms.[7]

Already the number of households made up of only one person is between 25 and 30 percent in most core cities of New England metropolitan areas (Appendix A). This could increase to 35 percent or more in the future. Boston's one-person households totalled almost 37 percent in 1980. Smaller household sizes will translate into fewer people when the number of households (occupied housing units) remains static or declines. Because of the high cost of expanding the housing stock in central cities, we can look forward to little new central city housing. On the other hand, demolition and abandonment will likely persist and thereby remove housing from the existing stock.

The issue of population loss in central cities is such a vital one because shrinking tax bases and reduced shares of federal funds allocated on the basis of population are not generally offset by lower operating budgets for police, fire, garbage collection, road maintenance and municipal employee pensions. A shrinking population base also means less political clout within state legislatures and consequently less leverage in lobbying for state funds as well.

For the most part, cities have tried to bolster their demographic well-being through policies aimed at creating new jobs or keeping the jobs they have. As necessary as such efforts are, housing, parking, school, and safety issues count heavily in whether new jobs translate into new residents. Moreover, holding on to the baby boomers who now live in cities, and who will be turning 40 over the remainder of this century, will become increasingly difficult unless these quality of life issues are addressed. Cities responsive to the needs and interests of this diverse group of baby-boom urbanites (gays, singles, upwardly mobile minorities, single parents and dual-career couples) will enter the next century in a stronger demographic position.

To a lesser extent the suburbs also will need to address the concerns of an increasingly diverse population base. We have already mentioned that the elderly are a rapidly growing constituency in most suburbs. Appendix A shows that nonfamily households in the suburbs of most New England SMSAs now account for between 15 and 25 percent of the total, with female-headed families approaching 10 percent. While the majority of suburban households are still composed of married couples, only about half of them have young children under the age of eighteen. Thus, the suburban stereotype of families made up of husband, wife and children now accounts for only between one-quarter to one-half of households in most metropolitan suburbs. Add to this the fact that more and more wives and mothers are in the labor force, and the dynamics of suburban life have shifted even further from what dominated in the 1950s and 1960s. There are attendant security issues: with fewer women at home during the day, houses are vulnerable to burglary, and children are increasingly left unsupervised at home after school. Nonfamily households are viewed with suspicion by the neighbors. Widows who cannot find alternative housing in their neighborhoods continue to occupy their large single-family residences while the house and yard begin to deteriorate around them. The lack of public transportation, which was never much of a problem for two car/one wifechauffeur families, hits hard those who do not have use of an automobile. There is opposition at zoning board hearings when someone wants to start a business in his home or convert an unused part of his house to a rental apartment. Developers who would like to develop empty land or demolish existing structures to build smaller, less expensive cluster housing to meet the needs and budgets of nonfamily households are vigorously opposed by abutting property owners. With the growing diversity of households and lifestyles, the suburbs are rapidly moving away from a politics of consensus toward a politics of interest-group conflict and, ultimately, a politics of compromise.

One dimension of diversity that has yet to really emerge in New England suburbs is racial diversity. While the City of Boston was 22.4 percent black and 6.4 percent Hispanic in 1980, the balance of the SMSA was only 1.6 and 1.4 percent black and Hispanic, respectively. In Hartford, blacks totalled 33.9 percent in the central city, with 20.5 percent Hispanic. Hartford suburbs, however, were made up of only 2.7 percent black and 1.1 percent Hispanic according to the 1980 Census (Appendix A).

The increase in the nonwhite and Hispanic populations in places like Boston and Hartford was initially caused by immigration, particularly in the late 1950s and 1960s. Over the last decade, immigration of blacks has slowed dramatically, yet they continue to increase in the total population because of an excess of births over deaths. Because nonwhites and Hispanics are recent arrivals, there are relatively few elderly in these groups, and, therefore, relatively few deaths. There are many more births, not so much because of a large number of births per woman, but because there are many women in the prime childbearing ages. Whites, on the other hand, often have more deaths than births (e.g., in Boston) because of a higher fraction of the white population that is elderly *and* because white women living in central cities have extremely low fertility rates, less than half the level necessary for replacement. Because of the differences in age structures and fertility rates between whites and nonwhites, we can expect continued racial turnover in central cities arising simply from differences in natural increase.

Racial turnover in suburbs remains dependent upon future patterns of migration, which in turn will depend upon the ability of minorities to overcome the economic and social barriers that have prevented them from taking up residence there in the past. In a few metropolitan areas, such as Washington, D.C., Philadelphia, and Chicago, the nonwhite working and middle classes have dramatically increased their representation in the suburbs in recent years. Such a trend could be seen in those metropolitan areas in New England where nonwhites and Hispanics are a significant percentage of central city populations. However, as can be seen from the data in Appendix A, those areas are few in number.

The poor relative economic position of minorities is reflected partly in the statistics on the change in the poverty rates between 1969 and 1979 (Appendix A). However, since the vast majority of SMSA central cities showed large increases in poverty rates over the 1970s decade, more important than racial turnover has been the effect on poverty rates of changes in household structure. Persons living in single-person households, elderly households, and female-headed family households are all overrepresented in the poverty index. For example, the central city portion of the Lawrence/Haverhill, Massachusetts SMSA increased its share of persons in poverty by almost 50 percent over the ten years of the 1970s, yet its minority population was still under 1 percent of the total in 1980. Nonfamily and female-headed family households in Lawrence/Haverhill, however, had risen to 46.6 percent of the total by 1980. Where suburban areas have also increased their poverty rates, the underlying cause has been primarily the same shift in household structures.

Another factor in the increase in poverty rates is purely definitional. Because in-kind transfers such as housing allowances, food stamps, Medicaid, school lunches, Meals on Wheels, and subsidized transportation services are not counted when calculating poverty statistics, "pure income" tends to overstate the poverty of many who receive this aid. Another problem arises when unrelated individuals share a household and household expenses. Their incomes are not pooled when calculating the poverty index, as are the incomes of family members. Finally, the poverty statistic measures only income and not wealth. Many elderly households show up pretty poorly on the income scale, yet their members live quite comfortably in mortgage-free housing and draw from their savings. Therefore, we must be careful not to take the crude poverty index literally when interpreting the relative well-being of households and persons in different cities and suburbs.

Yet, in a place like Danbury, Connecticut, which was economically "reborn" over the 1970s, greater economic well-being was clearly reflected in a decline in the poverty rate. Such good fortune must be considered a relatively rare experience for metropolitan areas in New England. More characteristically, we should expect poverty rates to continue to creep upward because of changing household structures and the growing role of transfers of goods and services (including barter and intergenerational transfers) in household economies.

Because more diversified household structures mean a growing share of female-headed households, and because women work fewer hours and earn less per hour than do men, the income distribution of households has become more dispersed. Dual-income professional households claim the upper-income bracket, while no-earner and one-earner female-headed households fall into the lower. When these two groups are pitted against each other in the marketplace, the poorer households simply cannot compete. Housing is a good example of a scarce resource that is increasingly being placed outside the reach of poor households. College education for one's children appears to be another. Health care could very well become a third as employers begin to reduce health-care benefits and insurers raise the co-pay share.

While the implications of a growing gap between the haves and have-nots seem clear, the solutions are not. Affirmative action to upgrade job access and remuneration for women and minorities would certainly help close the gap. But recent experience has shown how slowly such changes take effect. Greater concern about the growth of dead-end service-sector jobs and who gets trapped into such jobs is undoubtedly called for. But many of the high-growth jobs, such as security guards, janitors, copy machine operators, food service employees, and hospital orderlies will likely remain decidedly dead-end. Highly subsidized child-care services that allow women to work more hours and to keep more of what they earn would also be a step in the right direction. However, subsidized child care means that employers and upper income workers would get to keep less of what they earn, a proposal that runs counter to the Reagan administration's economic policies. Ultimately, women may opt out of childbearing, as they already appear to have done to some extent. When women stop having children, the short-term economic well-being of their households is improved, but the long-term economic well-being of the community is threatened, and the eventual burden placed on the government to care for childless individuals in sickness and in old age is increased.

## Conclusion

This brief review of the demography of New England has proceeded from the macro to the micro. We have contrasted the slow population growth projected for the region as a whole with the significant changes taking place in age structure, geographic mobility, residential location, household structure, racial composition and economic well-being in individual cities and suburbs. Some of these demographic trends are universal, such as the shifts in age structure. Others, such as racial turnover, are salient only in particular areas. As we shift our focus from regional or state demographic trends down to local levels, generalizations are increasingly difficult to make. Yet, it could easily be argued that demographic trends at the local level are more extreme and therefore become more important in informing public policy. The demographic history and future of each of New England's towns and cities are highly variable. How the local scene stacks up to the broader trends described in this paper should be a question foremost in the minds of all planners and policymakers. Fortunately, it is a question that can be answered with wise and timely planning decisions.

*Appendix A*

**Selected Demographic Characteristics of New England Metropolitan Areas by Central City and Suburbs**

| | | | | | | 1980 Population |
|---|---|---|---|---|---|---|
| | 1980 Population | 1970-80 Change | Black | Spanish Origin | Under 18 | Over 65 |
| | % | % | % | % | % | % |
| **Me.** | **1,125,000** | **+13.2** | **0.3** | **0.4** | **34.9** | **12.5** |
| Bangor SMSA | 83,919 | +5.0 | 0.3 | 0.4 | 25.0 | 10.6 |
| Central City Part | 31,643 | −4.6 | 0.5 | 0.4 | 23.8 | 13.1 |
| Suburban Part | 52,276 | +10.8 | 0.1 | 0.3 | 25.9 | 9.1 |
| Lewiston-Auburn SMSA | 72,378 | −0.1 | 0.3 | 0.5 | 27.5 | 14.2 |
| Central City Part | 63,609 | −3.5 | 0.4 | 0.4 | 26.6 | 15.0 |
| Suburban Part | 8,769 | +24.6 | 0.1 | 1.2 | 34.0 | 8.4 |
| Portland SMSA | 183,625 | +8.0 | 0.4 | 0.5 | 26.2 | 13.2 |
| Central City Part | 61,572 | −5.4 | 0.9 | 0.6 | 23.0 | 16.6 |
| Suburban Part | 122,053 | +14.8 | 0.2 | 0.4 | 27.9 | 11.5 |
| **N.H.** | **921,000** | **+24.8** | **0.4** | **0.6** | **28.1** | **11.2** |
| Manchester SMSA | 160,767 | +21.3 | 0.3 | 0.8 | 28.0 | 11.1 |
| Central City Part | 90,936 | +3.6 | 0.4 | 1.1 | 25.7 | 13.4 |
| Suburban Part | 69,831 | +44.3 | 0.3 | 0.5 | 31.1 | 8.0 |
| Nashua SMSA | 114,221 | +32.4 | 0.8 | 0.8 | 31.2 | 8.0 |
| Central City Part | 67,865 | +21.6 | 1.0 | 1.1 | 28.5 | 9.5 |
| Suburban Part | 46,356 | +48.2 | 0.5 | 0.4 | 35.3 | 6.0 |
| Portsmouth-Dover-Rochester SMSA | 163,880 | +15.2 | 0.9 | 0.7 | 26.2 | 10.8 |
| Central City Part | 70,191 | +9.3 | 1.6 | 0.9 | 26.9 | 11.7 |
| Suburban Part | 93,689 | +19.6 | 0.4 | 0.6 | 25.7 | 10.1 |
| **Vt.** | **511,000** | **+14.8** | **0.2** | **0.6** | **28.4** | **11.4** |
| Burlington SMSA | 114,070 | +16.0 | 0.4 | 0.8 | 27.5 | 7.7 |
| Central City Part | 37,712 | −2.4 | 0.6 | 0.8 | 19.5 | 10.8 |
| Suburban Part | 76,358 | +25.1 | 0.3 | 0.8 | 31.4 | 6.1 |

*(continued on next page)*

*Appendix A* *(continued from previous page)*

**Selected Demographic Characteristics of New England Metropolitan Areas by Central City and Suburbs**

| | | | 1980 Population | | | |
|---|---|---|---|---|---|---|
| | 1980 Population | 1970-80 Change | Black | Spanish Origin | Under 18 | Over 65 |
| | % | % | % | % | % | % |
| **Mass.** | **5,737,000** | **+0.8** | **3.9** | **2.5** | **26.0** | **12.7** |
| Boston SMSA | 2,763,357 | −4.7 | 5.8 | 2.4 | 24.3 | 12.5 |
| Central City Part | 562,994 | −12.2 | 22.4 | 6.4 | 21.6 | 12.7 |
| Suburban Part | 2,200,363 | −2.8 | 1.6 | 1.4 | 25.0 | 12.4 |
| Brockton SMSA | 169,374 | +12.6 | 3.4 | 1.6 | 30.0 | 10.7 |
| Central City Part | 95,172 | +6.9 | 5.2 | 2.3 | 30.2 | 11.9 |
| Suburban Part | 74,202 | +19.9 | 1.1 | 0.7 | 29.8 | 9.2 |
| Fall River SMSA | 176,831 | +4.3 | 0.4 | 1.7 | 28.0 | 13.8 |
| Central City Part | 92,574 | −4.5 | 0.5 | 2.4 | 26.9 | 16.6 |
| Suburban Part | 84,257 | +14.0 | 0.3 | 0.9 | 29.3 | 10.8 |
| Fitchburg-Leominster SMSA | 99,957 | +2.9 | 1.5 | 2.7 | 27.5 | 11.8 |
| Central City Part | 74,088 | −2.4 | 1.5 | 3.3 | 26.3 | 13.2 |
| Suburban Part | 25,869 | +18.1 | 1.6 | 0.9 | 31.0 | 7.9 |
| Lawrence-Haverhill SMSA | 281,981 | +9.1 | 0.9 | 4.4 | 28.9 | 12.3 |
| Central City Part | 110,040 | −2.5 | 1.8 | 10.0 | 28.0 | 15.4 |
| Suburban Part | 171,941 | +16.5 | 0.3 | 0.8 | 29.5 | 10.3 |
| Lowell SMSA | 233,410 | +6.9 | 0.8 | 2.3 | 30.9 | 9.3 |
| Central City Part | 92,418 | −1.9 | 1.3 | 5.0 | 27.7 | 13.0 |
| Suburban Part | 140,992 | +12.7 | 0.4 | 0.6 | 33.0 | 6.8 |
| New Bedford SMSA | 169,425 | +5.0 | 1.8 | 3.1 | 26.7 | 14.6 |
| Central City Part | 98,478 | −3.2 | 2.7 | 4.6 | 26.2 | 16.2 |
| Suburban Part | 70,947 | +16.4 | 0.6 | 1.0 | 27.1 | 12.4 |
| Pittsfield SMSA | 90,505 | −6.5 | 1.5 | 0.5 | 26.4 | 14.2 |
| Central City Part | 51,974 | −8.8 | 2.4 | 0.5 | 27.0 | 14.1 |
| Suburban Part | 38,531 | −3.4 | 0.3 | 0.4 | 25.7 | 14.2 |
| Springfield-Chicopee-Holyoke SMSA | 530,668 | −2.0 | 5.4 | 4.5 | 26.4 | 12.3 |
| Central City Part | 252,109 | −10.0 | 10.5 | 8.3 | 26.8 | 14.1 |
| Suburban Part | 278,559 | +5.2 | 0.8 | 1.1 | 26.0 | 10.7 |
| Worcester SMSA | 372,940 | +0.2 | 1.4 | 2.2 | 26.5 | 13.4 |
| Central City Part | 161,799 | −8.4 | 2.9 | 4.3 | 23.6 | 16.3 |
| Suburban Part | 211,141 | +6.8 | 0.4 | 0.5 | 28.8 | 11.3 |
| **R.I.** | **947,000** | **−0.3** | **2.9** | **2.1** | **25.7** | **13.4** |
| Providence-Warwick-Pawtucket SMSA | 919,216 | +1.1 | 2.7 | 2.1 | 25.7 | 13.4 |
| Central City Part | 315,131 | −6.8 | 6.3 | 3.8 | 24.4 | 14.9 |
| Suburban Part | 604,085 | +5.2 | 0.8 | 1.2 | 26.4 | 12.6 |
| **Ct.** | **3,108,000** | **+2.5** | **7.0** | **4.0** | **26.5** | **11.7** |
| Bridgeport SMSA | 395,455 | +1.6 | 8.8 | 7.7 | 26.7 | 12.2 |
| Central City Part | 142,546 | −8.9 | 21.0 | 18.7 | 27.9 | 13.4 |
| Suburban Part | 252,909 | +7.5 | 2.0 | 1.5 | 26.0 | 11.6 |
| Bristol SMSA | 73,762 | +5.6 | 1.4 | 1.5 | 27.9 | 10.3 |
| Central City Part | 57,370 | +3.4 | 1.6 | 1.7 | 27.1 | 10.9 |
| Suburban Part | 16,392 | +13.3 | 0.6 | 0.9 | 30.7 | 8.2 |

*(continued on next page)*

*Appendix A* *(continued from previous page)*

**Selected Demographic Characteristics of New England Metropolitan Areas by Central City and Suburbs**

| | | | 1980 Population | | | |
|---|---|---|---|---|---|---|
| | 1980 Population | 1970-80 Change | Black | Spanish Origin | Under 18 | Over 65 |
| | % | % | % | % | % | % |
| Danbury SMSA | 146,405 | +26.7 | 2.9 | 2.1 | 30.1 | 9.3 |
| Central City Part | 60,470 | +19.1 | 5.7 | 3.3 | 27.3 | 10.7 |
| Suburban Part | 85,935 | +32.0 | 0.9 | 1.2 | 32.1 | 8.4 |
| Hartford SMSA | 726,114 | +0.8 | 8.5 | 4.7 | 26.6 | 11.4 |
| Central City Part | 136,392 | −13.7 | 33.9 | 20.5 | 29.0 | 11.4 |
| Suburban Part | 589,722 | +4.2 | 2.7 | 1.1 | 26.1 | 11.4 |
| Meriden SMSA | 57,118 | +2.1 | 3.4 | 8.2 | 26.5 | 12.7 |
| Central City Part | 57,118 | +2.1 | 3.4 | 8.2 | 26.5 | 12.7 |
| Suburban Part | — | — | — | — | — | — |
| New Britain SMSA | 142,241 | −2.1 | 3.4 | 5.0 | 24.3 | 12.4 |
| Central City Part | 73,840 | −11.5 | 5.8 | 8.7 | 21.3 | 14.4 |
| Suburban Part | 68,401 | +8.0 | 0.9 | 1.0 | 27.4 | 10.2 |
| New Haven-West Haven SMSA | 417,592 | +1.5 | 12.0 | 3.2 | 25.4 | 12.3 |
| Central City Part | 179,293 | −5.7 | 25.2 | 6.0 | 24.6 | 13.0 |
| Suburban Part | 238,299 | +6.9 | 2.1 | 1.1 | 26.0 | 11.8 |
| New London-Norwich SMSA | 248,554 | +2.8 | 3.6 | 1.9 | 27.3 | 10.8 |
| Central City Part | 66,916 | −8.8 | 8.2 | 3.5 | 24.3 | 13.2 |
| Suburban Part | 181,638 | +7.1 | 1.9 | 1.3 | 28.4 | 9.9 |
| Norwalk SMSA | 126,692 | +0.7 | 8.9 | 4.1 | 26.6 | 9.9 |
| Central City Part | 77,767 | −1.9 | 13.9 | 5.8 | 25.4 | 10.8 |
| Suburban Part | 48,925 | +4.8 | 0.8 | 1.3 | 28.6 | 8.4 |
| Stamford SMSA | 198,854 | −3.6 | 8.4 | 3.7 | 25.0 | 12.4 |
| Central City Part | 102,453 | −5.8 | 15.0 | 5.6 | 24.5 | 12.0 |
| Suburban Part | 96,401 | −1.3 | 1.4 | 1.7 | 25.5 | 12.7 |
| Waterbury SMSA | 228,178 | +5.2 | 5.8 | 3.6 | 27.0 | 13.8 |
| Central City Part | 103,260 | −4.4 | 11.6 | 6.7 | 25.8 | 15.5 |
| Suburban Part | 124,912 | +3.6 | 1.0 | 1.0 | 28.0 | 12.4 |

| | 1980 Households | | | Persons in Poverty | | |
|---|---|---|---|---|---|---|
| | Non-Family | Female Family | Single Person | 1979 | 1969 | Change Poverty Rate |
| | % | % | % | % | % | % |
| **Me.** | **34.4** | **12.2** | **28.6** | **13.0** | **13.2** | **+5.3** |
| Bangor SMSA | 29.2 | 10.3 | 21.8 | 12.4 | NA | — |
| Central City Part | 37.0 | 11.8 | 28.4 | 14.6 | 14.7 | −0.7 |
| Suburban Part | 23.7 | 8.5 | 17.1 | 11.1 | NA | — |
| Lewiston-Auburn SMSA | 28.8 | 11.2 | 25.0 | 12.9 | 12.1 | +6.6 |
| Central City Part | 30.8 | 11.3 | 26.8 | 15.7 | 12.4 | +26.6 |
| Suburban Part | 14.3 | 10.5 | 11.9 | 7.4 | 7.9 | −6.3 |
| Portland SMSA | 30.5 | 10.5 | 24.6 | 10.5 | 10.3 | +1.9 |
| Central City Part | 42.6 | 12.5 | 34.1 | 15.4 | 14.5 | +6.2 |
| Suburban Part | 23.3 | 9.3 | 19.0 | 8.0 | 6.6 | +21.2 |
| **N.H.** | **26.3** | **8.4** | **21.4** | **8.5** | **8.8** | **−3.4** |
| Manchester SMSA | 27.5 | 9.7 | 22.6 | 7.9 | 9.9 | −20.2 |
| Central City Part | 32.3 | 11.6 | 26.9 | 10.4 | 10.1 | +3.0 |
| Suburban Part | 20.3 | 6.8 | 16.1 | 4.6 | 8.9 | −48.3 |

*(continued on next page)*

*Appendix A* *(continued from previous page)*

## Selected Demographic Characteristics of New England Metropolitan Areas by Central City and Suburbs

| | 1980 Households | | | Persons in Poverty | | |
|---|---|---|---|---|---|---|
| | Non-Family | Female Family | Single Person | 1979 | 1969 | Change Poverty Rate |
| | % | % | % | % | % | % |
| Nashua SMSA | 23.8 | 8.7 | 19.0 | 5.3 | 6.3 | −15.9 |
| Central City Part | 28.1 | 9.6 | 22.6 | 6.5 | 6.4 | +1.6 |
| Suburban Part | 16.4 | 6.5 | 12.8 | 3.5 | 7.7 | −54.5 |
| Portsmouth-Dover-Rochester SMSA | 28.4 | 8.9 | 21.8 | 9.5 | NA | — |
| Central City Part | 31.4 | 10.0 | 24.7 | 9.4 | NA | — |
| Suburban Part | 26.2 | 8.0 | 19.6 | 9.6 | NA | — |
| **Vt.** | **28.1** | **9.0** | **21.9** | **12.1** | **11.6** | **+4.3** |
| Burlington SMSA | 30.7 | 8.8 | 21.3 | 10.2 | NA | — |
| Central City Part | 45.5 | 10.1 | 30.7 | 16.2 | 11.8 | +37.3 |
| Suburban Part | 22.9 | 8.1 | 16.4 | 7.2 | NA | — |
| **Mass.** | **29.2** | **11.5** | **24.4** | **9.6** | **8.3** | **+15.7** |
| Boston SMSA | 32.5 | 11.7 | 26.3 | 9.4 | 8.5 | +10.6 |
| Central City Part | 46.7 | 16.2 | 36.8 | 20.2 | 15.4 | +31.2 |
| Suburban Part | 28.5 | 10.4 | 23.3 | 6.6 | 6.3 | +4.8 |
| Brockton SMSA | 25.1 | 12.2 | 21.7 | 9.7 | 7.2 | +34.7 |
| Central City Part | 28.4 | 14.6 | 24.8 | 12.6 | 8.6 | +46.5 |
| Suburban Part | 20.3 | 8.6 | 17.2 | 6.0 | 5.9 | +1.7 |
| Fall River SMSA | 23.8 | 11.1 | 21.9 | 11.1 | 11.2 | −0.9 |
| Central City Part | 28.9 | 13.6 | 27.3 | 14.8 | 13.6 | +8.8 |
| Suburban Part | 17.5 | 8.1 | 15.2 | 7.0 | 6.7 | +4.5 |
| Fitchburg-Leominster SMSA | 26.2 | 10.6 | 22.5 | 9.5 | 8.0 | +18.8 |
| Central City Part | 28.9 | 11.5 | 24.7 | 11.2 | 8.7 | +28.7 |
| Suburban Part | 17.8 | 8.0 | 15.6 | 4.6 | 5.2 | −11.5 |
| Lawrence-Haverhill SMSA | 25.3 | 11.7 | 22.4 | 10.8 | 7.7 | +40.3 |
| Central City Part | 31.2 | 15.4 | 28.0 | 15.5 | 10.4 | +49.0 |
| Suburban Part | 21.1 | 9.0 | 18.4 | 7.8 | 5.1 | +52.9 |
| Lowell SMSA | 21.0 | 11.3 | 18.6 | 8.2 | 7.8 | +5.1 |
| Central City Part | 31.1 | 15.3 | 26.8 | 13.5 | 11.3 | +19.5 |
| Suburban Part | 13.1 | 8.2 | 12.2 | 4.7 | 4.9 | −4.1 |
| New Bedford SMSA | 25.7 | 12.2 | 23.4 | 12.2 | 13.0 | −6.2 |
| Central City Part | 29.2 | 14.7 | 26.8 | 16.2 | 15.1 | +7.3 |
| Suburban Part | 20.3 | 8.3 | 18.1 | 6.6 | 8.6 | −23.3 |
| Pittsfield SMSA | 26.9 | 10.8 | 23.9 | 9.0 | 7.2 | +25.0 |
| Central City Part | 27.9 | 12.2 | 24.8 | 10.3 | 7.4 | +39.2 |
| Suburban Part | 25.5 | 8.7 | 22.6 | 7.2 | 6.7 | +7.5 |
| Springfield-Chicopee-Holyoke SMSA | 26.9 | 12.2 | 23.4 | 11.3 | 9.0 | +25.6 |
| Central City Part | 29.8 | 15.9 | 26.6 | 16.1 | 11.5 | +40.0 |
| Suburban Part | 24.5 | 9.1 | 20.7 | 7.0 | 6.0 | +16.7 |
| Worcester SMSA | 26.8 | 11.0 | 23.2 | 9.6 | 7.7 | +24.7 |
| Central City Part | 33.4 | 14.0 | 28.5 | 14.4 | 10.0 | +44.0 |
| Suburban Part | 21.4 | 8.5 | 18.9 | 5.9 | 5.1 | +15.7 |

*(continued on next page)*

*Appendix A* *(continued from previous page)*

**Selected Demographic Characteristics of New England Metropolitan Areas by Central City and Suburbs**

| | 1980 Households | | | Persons in Poverty | | |
|---|---|---|---|---|---|---|
| | Non-Family | Female Family | Single Person | 1979 | 1969 | Change Poverty Rate |
| | % | % | % | % | % | % |
| **R.I.** | **27.4** | **11.2** | **23.9** | **10.3** | **10.5** | **−1.9** |
| Providence-Warwick-Pawtucket SMSA | 27.4 | 11.2 | 23.9 | 10.5 | 10.2 | +2.9 |
| Central City Part | 33.4 | 13.6 | 29.2 | 14.6 | 13.8 | +5.8 |
| Suburban Part | 23.9 | 9.8 | 20.9 | 8.4 | 8.0 | +5.0 |
| **Ct.** | **25.6** | **10.8** | **21.6** | **8.0** | **7.0** | **+14.3** |
| Bridgeport SMSA | 23.7 | 12.6 | 20.6 | 9.9 | 7.1 | +39.4 |
| Central City Part | 31.7 | 18.9 | 28.1 | 20.4 | 11.5 | +77.4 |
| Suburban Part | 18.8 | 8.8 | 16.0 | 4.0 | 4.1 | −2.4 |
| Bristol SMSA | 23.4 | 9.9 | 20.3 | 5.4 | 5.0 | +8.0 |
| Central City Part | 24.1 | 10.5 | 21.0 | 5.9 | 4.8 | +22.9 |
| Suburban Part | 20.7 | 7.5 | 17.6 | 3.7 | 6.1 | −39.3 |
| Danbury SMSA | 21.7 | 8.4 | 18.0 | 4.6 | 6.0 | −23.3 |
| Central City Part | 26.9 | 10.0 | 22.4 | 6.7 | 7.1 | −5.6 |
| Suburban Part | 17.7 | 7.1 | 14.6 | 3.1 | 3.9 | −20.5 |
| Hartford SMSA | 26.5 | 11.1 | 21.9 | 7.9 | 6.9 | +14.5 |
| Central City Part | 40.9 | 21.9 | 34.7 | 25.2 | 16.4 | +53.7 |
| Suburban Part | 22.9 | 8.4 | 18.7 | 3.9 | 3.9 | 0.0 |
| Meriden SMSA | 27.0 | 11.0 | 24.1 | 7.4 | 6.7 | +10.4 |
| Central City Part | 27.0 | 11.0 | 24.1 | 7.4 | 6.7 | +10.4 |
| Suburban Part | — | — | — | — | — | — |
| New Britain SMSA | 27.2 | 10.4 | 22.9 | 7.7 | 6.6 | +16.7 |
| Central City Part | 33.6 | 12.3 | 27.9 | 11.8 | 8.5 | +38.8 |
| Suburban Part | 19.4 | 8.0 | 16.8 | 3.3 | 3.9 | −15.4 |
| New Haven-West Haven SMSA | 28.2 | 12.0 | 23.6 | 10.5 | 9.8 | +7.1 |
| Central City Part | 36.7 | 16.9 | 30.4 | 19.1 | 14.0 | +36.4 |
| Suburban Part | 21.3 | 8.1 | 18.1 | 4.0 | 7.0 | −42.9 |
| New London-Norwich SMSA | 25.3 | 9.7 | 20.9 | 8.6 | 10.1 | −14.9 |
| Central City Part | 33.7 | 12.9 | 31.1 | 14.5 | 10.9 | +33.0 |
| Suburban Part | 21.9 | 8.4 | 16.7 | 6.4 | 9.6 | −33.3 |
| Norwalk SMSA | 23.8 | 9.9 | 19.3 | 5.3 | 5.7 | −7.0 |
| Central City Part | 27.2 | 11.4 | 22.4 | 7.0 | 6.5 | +7.7 |
| Suburban Part | 17.9 | 7.3 | 13.9 | 2.6 | 4.8 | −45.8 |
| Stamford SMSA | 25.5 | 10.3 | 21.6 | 5.4 | 5.4 | 0.0 |
| Central City Part | 28.7 | 12.0 | 24.6 | 7.7 | 7.0 | +10.0 |
| Suburban Part | 21.9 | 8.3 | 18.2 | 3.0 | 3.6 | −16.7 |
| Waterbury SMSA | 24.2 | 11.0 | 21.7 | 8.9 | 7.2 | +23.6 |
| Central City Part | 28.8 | 14.5 | 26.2 | 14.1 | 9.5 | +48.4 |
| Suburban Part | 20.0 | 7.9 | 17.6 | 4.6 | 4.7 | −2.1 |

*Sources: 1970 Census of Population, Supplementary Report,* "Poverty Status in 1969 and 1959 of Persons and Families, for States, SMSA's, Central Cities and Counties," 1970 and 1960 PC(51)-105; *1980 Census of Population and Housing, Summary Characteristics for Governmental Units and Standard Metropolitan Statistical Areas,* PHC80-3; U.S. Bureau of the Census, *County and City Data Book, 1977;* U.S. Bureau of the Census, *State and Metropolitan Area Data Book, 1982;* U.S. Bureau of the Census, *County and City Data Book, 1983.*

## Notes

1. George S. Masnick, "The Expected Rapid Aging of New England's Vital Resource, Its Labor Force: Context and Consequence." Paper presented at Regional Public Policy Conference on the Retraining Needs of Mid-Career Workers in New England, John F. Kennedy Library, Boston, December 1, 1983.
2. Lynn E. Browne, "A Quality Labor Supply," in John C. Hoy and Melvin H. Bernstein, eds., *New England's Vital Resource: The Labor Force* (Washington, D.C.: American Council on Education, 1982), pp. 65-95.
3. Masnick, "Expected Rapid Aging."
4. Larry H. Long, "Population Redistribution in the U.S.: Issues for the 1980's," *Population Trends and Public Policy,* March 1983.
5. George S. Masnick, "Demographic Influences on the Labor Force in New England," in Hoy and Bernstein, *New England's Vital Resource,* pp. 36-64.
6. The general concept of a metropolitan area is one of a large population nucleus together with adjacent communities that have a high degree of economic and social integration with the nucleus. Such population agglomerations encompass major cities and their suburbs. The classification defining Standard Metropolitan Statistical Areas (SMSAs) is a statistical tool developed for use by federal agencies in the production, analysis, and publication of data on metropolitan areas. Nationwide, there are now 323 such areas, with 29 in the New England region. They may straddle state lines, as do several in New England. The SMSA concept provides a convenient way to examine the demographic structure of both core cities and suburbs.
7. Katharine L. Bradbury, "Urban Decline and Distress: An Update," *New England Economic Review,* July/August 1984, pp. 39-55.

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# Rusticus: Notes on Class and Culture in Rural New Hampshire

*Donald Hall*

Old New Hampshire Highway Number Four was incorporated by an act of the New Hampshire legislature in the autumn of 1800. It wound out of Portsmouth, a seaport that once rivaled Boston, drove west through Concord, north past Penacook, through Boscawen, Salisbury, Andover, and Wilmot on its way to Lebanon and the Connecticut River. These names string history like beads. The Penacook tribe assembled each year on the banks of the Merrimack at the site of the present town that bears their name. I grew up thinking Boscawen an unusual Indian name; it is Cornish, surname of an admiral victorious over the French in the eighteenth century. Andover's land was granted to veterans of the Louisburg Expedition against the French, but the first house did not go up until 1761, a year after the English conquest of Canada put an end to Indian raids. We need no reminding in 1985 that Lebanon turns up in the Old Testament.

Not that these New Hampshire towns lack a history of violence. At Penacook is the island in the Merrimack River where Hannah Dustin killed ten Indians in 1697. Forty years old, she was kidnapped from the village of Haverhill, Massachusetts Bay Colony, where she had given birth a week earlier. Her husband with their seven older children was working in the fields, Dustin nursing her infant under the care of a neighbor named Mary Jeff, when Abenakis attacked, burned her house, and brained her baby against a tree. They took the two women into the forest where they divided their prisoners into traveling parties; these women were grouped with a boy captured at Worcester. As they began their journey north toward Canada, their guards were two braves, three squaws, and seven Abenaki children. While the Indians slept on the Merrimack Island, the three prisoners stole their tomahawks and quickly murdered all but one squaw and one boy. The colonists prudently hacked up the corpses of their captors, and when they returned to Haverhill received a bounty of fifty pounds for the scalps.

Cotton Mather tells the story, which he heard from Ms. Dustin herself, who survived into her eightieth year. I met her again in Frances Parkman, who spells the name Dustan, but I first heard the adventure from my grandmother in an old house on Route Four in Wilmot; she told it with some difference in detail as a family story about a heroic ancestor. About the time my grandmother died, at ninety-seven in 1975—the year we moved into her house—the New Hampshire State Liquor Commission contrived a Hannah Dustin commemorative bottle filled with bourbon: you twist her head off (as the Abenakis should have done) and pour yourself Kentucky's whiskey.

*Donald Hall is a poet and free-lance writer who lives in New Hampshire.*

New Hampshire's state economy, without sales tax or income tax, is based on wickedness and ill health: the first state lottery was New Hampshire's in 1963; flatlanders buy truckloads of cheap cigarettes; a state monopoly keeps liquor cheap. Huge stores beside the interstates sell cases to visitors from Massachusetts, while highway signs primly warn about the dangers of drinking and driving. Novelty items, like the effigy of the amazonian Indian killer, help New Hampshire's citizens avoid paying taxes. I begin my generalizations about the culture or ethos of northern New England by relating these two pieces of New Hampshire lore, with nothing in common except a woman's name and fiscal prudence. Perhaps if we add the woman of 1697 to her 1975 figurine and divide by two, the product is present-day New Hampshire.

My grandmother was born in this house in 1878, thirteen years after her father moved here. The extended white farmhouse sits on a busy two-lane country highway, although the original house was presumably set back from the Grafton Turnpike—incorporated in 1804, not finished until 1811—which headed north after Highway Number Four turned toward the sunset at West Andover. The saltbox went up in 1802, I assume on a wagon track where men led oxen. It would not go so far back as Hannah Dustin, for reasons her adventure makes clear. Most settlement this far inland took place after the Revolution. Troops mustered out and migrated north from Massachusetts—doubtless some were descendants of the Haverhill Dustins—or west from the New Hampshire seacoast, for independence and a piece of land. This house stands between Danbury and Andover in the town of Wilmot, incorporated in 1817 out of scraps and patches, including Kearsarge Gore. It remains quiet despite the busy traffic; we see one other house from our house. We love this country solitude, interrupted by church, shopping, and occasional callers who stop by the dooryard; we love Mount Kearsarge, noble to the south of us, and Eagle Pond, placid to the west, Ragged Mountain rising behind our woodshed. . . . But we love best the culture we live in—despite its bourbon figurines.

When I was asked to write about the New England mind, or spirit, at first I thought: fine; that's what I always write about. A reservation followed quickly: What do I know about the mind of Greenwich, Connecticut? or Fall River, Massachusetts? or, Nashua, New Hampshire, for that matter? Nashua is New Hampshire annexed by California—crowded, changing day by day, Silicon Valley North. How can I generalize about New England if I cannot even generalize about New Hampshire? The novelist George V. Higgins, who reviews magazines in the *Globe* on Saturdays, once quoted Ada Louise Huxtable on "New England": "It's a very Calvinistic life," she said. "It has beautiful symmetry and restrictions, and great intellectual elegance." One of the *Globe*'s resident Hibernians, Higgins was puzzled: Perhaps Huxtable had overlooked Brockton and Lawrence? When Huxtable continued by saying, "But you could say it's a little constipated," Higgins's puzzlement disappeared. "It's Cambridge," he deduced with relief.

Surely he was correct. The New Hampshire in which I live is as alien to Cambridge as it is to Brockton, and it is about *this* province that I allow myself to speak; I can write, maybe, about the mind or spirit of Wilmot, New Hampshire. If what I observe in Wilmot, Danbury, and Andover applies elsewhere, it will apply mostly to other parts of northern New England—not to Nashua, not to the tax-free Boston suburb that is Salem, New Hampshire. And it may apply to the area spreading west from Vermont into the poorer rural regions of northern New York and Pennsylvania, into the country towns of eastern Ohio, settled with New Englanders about the time these New Hampshire towns were settled, with handsome village squares and Federal buildings.

Not to mention the rural South.

During the year, I take brief trips away from this house as I read my poems at colleges. Every year I go to the Coast once or twice, I visit Texas once a year, not only Austin and Dallas but Lubbock and Waco; I visit the exotic landscapes of Idaho, Colorado, Montana, and Utah; I return continually to the various institutions of Ohio—and nowhere in the United States am I reminded so much of rural New Hampshire as when I read at small colleges in Georgia, Alabama, and South Carolina.

Four times I have visited Presbyterian College in Clinton, South Carolina, where I stay with Allen and Yvonne King in the tiny town of Cross Hill. Twice I have been to Wofford College in Spartanburg, nearby. In a circle surrounding Atlanta—which could almost be Toledo or Houston—small colleges inhabit middle-sized Georgia towns: Columbus, Augusta, Milledgeville, Rome. Now when I stay at the Milledgeville Holiday Inn, I might as well sleep in Rhode Island or Montana. But when I walk or drive outside Augusta or Rome, when I sit on the verandah in Cross Hill, although the architecture differs and the accent is incorrect, I feel emanations of *home* rising from red dirt. It is more than the sculpture, alive in the center of southern towns as it lives in Wilmot Flat, of the Civil War soldier and the soldier of the War Between the States—slim fellow eternally bronze, with musket and identical standard handsome features, with the minor discrepancy of uniform, of victory and defeat.

He stands more often in the South than he does in New Hampshire. He poses in Wilmot Flat, not in Andover or Danbury. Rich Andover raised a war monument only in 1923, shortly after what it called The World War, but the list of one hundred forty-three Civil War soldiers takes pride of place on the monument's front. Poor Danbury—which my blacksmith great-grandfather John Wells left for the New Hampshire Volunteers, Company F, 15th Regiment—fixes a small bronze plaque on the town hall. Among the fifty-one names from Samuel S. Adams to Addison L. Woodman, I recognize families that survive in Danbury one hundred twenty years later: Braley, Brown, Butler, Danforth, Farnham, Ford, Minard, Morrill, Morrison, Sanborn. I recognize the name of a cousin killed by a cannonball at Vicksburg: John Wells brought back to his family the contents of dead pockets, and one object has come down to this house; in my grandmother's jewelry case, on top of another great-grandfather's chest of drawers in our bedroom, I keep a ring carved out of bone by a boy killed a hundred-and-twenty-some years ago.

Only in small towns of the rural South and in towns of northern New England does this war survive—blockade, starvation, burning, attrition, sepsis, trench warfare, and charges into cannon fire. If you search the suburbs from Connecticut through New York and New Jersey, past Pennsylvania, skirting Gettysburg into Ohio, Michigan, Indiana; if you search through the Plains states to the West Coast from Orange County to Bellevue, Washington, you will rarely find this war. In the present United States, this war recedes into *olden times,* like Homer, the Roaring Twenties, the Crusades, Gilgamesh, and Will Rogers. It is preserved like a bottled fetus in the library and in the notebooks of genealogical eccentrics. Outside Atlanta and Birmingham, and north of Boston, the blue and the gray still march—bugle call and amputated limb—in the fierce cannonade of old memory. The past continues into the present because the plaque's family names remain on the land. Only in the rural South and rural New England do you find any appreciable remnant of Americans who live where their great-grandfathers lived, or who know the maiden names of their great-grandmothers.

Rural New Hampshire separates itself not only from Cambridge and Brockton. Let me call rural people a separate class, class *Rusticus*. In order to talk of its uniqueness, I must speculate about the cultures against which it distinguishes itself. When we talk about American classes by making revision of European class structures, I suspect we miss the point. Americans divide themselves not so much into economic classes as into ethnic, regional, and cultural groups—except that most of us belong to a single class within which there is economic hierarchy. The middle class, or *Massclass,* is singular, because it shares goals and values—the names of desired objects alter according to hierarchy, and your mobile home is my year in France—and because it does not care where it lives except in connection with these desires.

When I assert this great monoclass, I do not deny that poverty and suffering assault its unluckier members. Depression or recession, unemployment, bankruptcy and foreclosure, failure and social welfare, are cyclical components of capitalism. I speak of a commonness not of success and prosperity but of standards of success and prosperity. Neither do I deny the existence of an underclass perpetually assaulted by poverty, rendered almost unemployable by habitual loss, generation after generation nurtured and enfeebled by welfare. I only deny, by definition, that these sufferers may be called working class.

At the other extreme, maybe there are a few families, with money around for several generations, who make an upper class. Maybe . . . I remain skeptical of inherited class in the United States, skeptical that its narcissism is secure. These people hold to superiority over rich massclass managers only by the skin of their capped teeth, the way the lower-middle class in England paddles furiously to distinguish itself from workers. *Black* is a class, most of the time, a culture and a set of values distinct from massclass, from which some blacks emigrate into massclass. I suppose that *Hispanic* is another. *Emigrant* is mostly a one-generation class, culturally divided according to place or origin, second and third generation joining massclass America. I suggest that Rusticus is another class or culture; I live among this class as a massclass emigrant.

My mother and my grandmother were born in this house but my mother moved to Hamden, Connecticut—a suburb of New Haven—when she married, and I grew up among blocks of similar houses, a neighborhood in a town where everyone shared four convictions: (1) I will do better than my father and mother. (2) My children will do better than I do. (3) "Better" includes "education," and education provides the things of this world. (4) *The things of this world are good.* Within the town, the neighborhoods were distinct, especially according to hierarchies of money—the market value of houses, their size and proximity to each other, the number of stalls in their garages. In Hamden we lived on the western side of Whitney Avenue in a prosperous section called Spring Glen, a little more prosperous than Whitneyville, richer than Centerville and State Street. Because we were on the western side of Whitney, my father always said we lived on the "two-bit side"; east of Whitney was the "fifty-cent side."

When I left Hamden High School, to go to Exeter, Harvard, and later Oxford, I learned a number of confusing things about class. For one thing, I learned that I cherished *ressentiment.* Exeter is massclass, but within the hierarchy it is more elevated than Hamden High School. At Exeter for the first time I met people whose fathers, grandfathers, and great-grandfathers had gone to college—same colleges, same clubs. I was not like them; my grandfathers were not high school graduates; they had worked with their hands. I discovered poorboy resentment when I heard myself hiss at a fourth-generation Princetonian: "Rich Boy!" Any incipient hierarchy-hatred was muted by

Harvard, for the legacies who hung around Porcellian or Fox were figures of fun; powerful students mostly came from high schools in Denver and from the Bronx High School of Science. After Harvard, Oxford taught me something else, which was the tentative and apologetic nature of American classes in contrast to venerable English habits preserved in conservative Oxford. My arrival at Christ Church College was a series of social traumas. Two distinguished gentlemen, as I thought, lifted my heavy suitcases from the taxi and ignored my protests as I tried to relieve them of their burdens. Politely but with magisterial firmness they allowed me to understand that I was not permitted to carry my own suitcases: my suitcases would be delivered to my rooms, sir. When I gained my rooms, I was assaulted again: a handsome youngish man knocked on my door and introduced himself: "I am your servant, sir." I wanted him to take it back; don't *say* such a thing of yourself! And for two years he never sat in my presence.

Later I understood that for all the tipping of caps, English working-class deference concealed notions of superiority, and that working-class culture took pride in its separateness. Not so in the American massclass that I grew up in and moved back to. Ann Arbor, Michigan—I taught for many years at the university there—cloned Hamden, Connecticut, and Lexington, Massachusetts. Ann Arbor was massclass, and in southern Michigan everyone lived in a geologic stratum of this class—unless you were black and sometimes if you were black. The academy is an institution of massclass, not to say a boot camp, and professors at the University of America rise through the layers of their careers like caterpillars from larva to winged glory. The assistant professor, in my time, drove a Beetle; Volvos were Volkswagens with tenure. In American society no segment—not even big business, not even government, not even the Masons—is so hierarchical, so positively medieval, so graduated and organized by level, so pope/cardinal/archbishop/bishop/priest, as the University of America. The graduate student pad becomes the small house of the assistant professor, which turns into the larger house on a larger lot for the associate—and with success the near-estate of the full professor, the chairman, the associate dean for student affairs. In Ann Arbor neighborhoods, the professional class surrounds itself with other professionals, with lawyers and doctors and the more pretentious executives from the automobile industry, willing to commute to Dearborn or Detroit for the sake of musical evenings, football Saturdays, tennis with tenured professors, polysyllabic cookouts, and doctoral cocktail parties.

Ann Arbor is a prosperous town, and neighboring towns house its servants. This pairing or balancing of towns and neighborhoods is a constant feature of society. But the man who pumps gas for you, if he lives in an Ann Arbor neighborhood of homemade houses, does not belong to a different class. At least, when we call him "working class"—because he wears white socks and T-shirts, because he bowls on Thursdays, because he hangs his belly over his belt, because his annual income is less than ours—we do not name a culture, as we do for an English agricultural laborer or a Yugoslavian coal miner or a French chambermaid. His culture is different on the surface but his aspirations follow the same template. He is massclass, but he didn't have the breaks or the education; by God, his kids will! He works to take time off; his time off is a cottage by the lake with his outboard, rather than a sabbatical at the British Museum with an ACLS grant, but only the names are changed.

If I indulge myself in ironies about the massclass, it is not with the notion that I thereby detach myself. I am a card-carrying member, Amexco, and one does not alter the habits and values of a lifetime by changing one's place of residence. I retain the markings: lust for comfort, distaste for physical labor, fear and loathing of false teeth, desire for my children's education and comfort. Because my parentage was mixed, because I spent my childhood summers in this house, I kept at least a vision of something different.

The class or culture of Rusticus is alien to massclass. Let us start with a stereotype of New Hampshire's citizenry as cherished by citizens of Boston: Rusticus women are fat; Rusticus men wear crew cuts; there isn't a full set of God-given teeth from Vermont's border on Lake Champlain eastward to Maine's Atlantic coast. Mr. and Mrs. R. inhabit a thirty-year-old trailer without calling it a mobile home, surrounded by two junked sedans and a pickup that's all froze up next to the old freezer past the washing machine; they are somewhere between thirty-two years old and fifty-seven but it's hard to tell; each weighs two hundred twelve pounds, but he spreads his weight over his whole five feet eight-and-a-half inches, while she tends to be more concentrated at five foot one; the working truck wears a gun rack and an NRA bumper sticker; there's a sign for night crawlers and another for a yard sale; when the mill's going they gum Twinkies and TV dinners but when they're laid off, they settle for squirrel meat and potato chips; they have never applied for food stamps because they don't know they are poor and because people on welfare are liars and cheats. They vote Republican.

Now some massclass visitors honor Rusticus with the epithet "redneck," acknowledgment of a perceived analogy to the rural South—acknowledgment more clearly of the antipathy that one class feels for another. "Redneck" is racist slang, like "hillbilly"; it demonstrates urban and suburban superiority to Rusticus, while it conceals terror of the alien. But of course, Massachusetts liberals, when they speak of the rednecks of New Hampshire, do not believe that they demonstrate terror of overweight people without teeth. They feel that they denounce right-wing politics, narrow and bigoted opinions associated with Alabama sheriffs named Virgil who shoot SNCC workers.

It must be admitted that the flatlanders may assemble some evidence, including a New Hampshire governor (born in Georgia) who praised the living conditions of Soweto, and a newspaper that is not only the worst occasion of journalism in the United States, but, for a daily paper, the grossest conservative rag. But things are never *quite* so simple: even to characterize New Hampshire's politics as right wing is unhistorical, as if we called Hannah Dustin a fascist for her attitude toward Native Americans.

Reading early American history, one becomes aware that the Revolution started not with the shot heard round the world but with landings at Virginia and Plymouth, and with the extraordinary, habitual independence of these colonies from their sovereign across the sea. Our ancestors were ungovernable from abroad; they were also largely ungovernable at home. Within each colony, every unit separated itself as much as possible from every other unit—town from state, village from town, family or neighbor group from village, and legislature from governor. On occasion we had to cooperate: to fence the common, to build a jail. *Some* law was necessary; but in spirit the colonists, Puritan or not, remained largely antinomian. We were, after all, self-selected separators, alike only in that we all decided to leave the past behind and start over.

New Hampshire's history for three hundred years has been dominated by the necessity to separate itself from its huge neighbor Massachusetts. If New Hampshire had not grown pointed bristles, Massachusetts would have eaten it alive in the seventeenth century, not to mention the eighteenth, nineteenth, and twentieth. The generally separatist tendencies of Americans became exacerbated for New Hampshire by the power of Boston. When colonies became states, when the Union needed preserving, still Franklin

Pierce's Democrats voted in the House against using federal funds for construction of highways and canals in states and territories. Ideas of states' rights, and states' consequent responsibilities, pertained not only to slavery and the South. New Hampshire's 1985 conservative Republican is a Frank Pierce Democrat of 1853.

My great-grandfather John Wells was a Copperhead like the New England fellow who named his son Robert Lee Frost and moved west to California, along with others who bet on the wrong side. John Wells fought for the Union out of local feeling, hated Lincoln all his life, and bequeathed to all his descendants genetic adherence to the Democratic Party, which leaves my family, out of loyalty and DNA, eccentric in New Hampshire. When the Democrats nominated Al Smith, we decided that the pope would not take over the West Wing; Roosevelt's New Deal seemed only sensible to the clan descending from John Wells.

Not so for my neighbors in general, skeptical not only of national government but of bigwigs in the state capital and, if truth be known, of the selectmen they elect on town-meeting day. If this politics is right wing, what do we call the National Association of Manufacturers, General Motors, ABC television, conglomerates and cartels, *U.S. News and World Report,* or Ronald Reagan? Of course, the New Hampshire Republican is conservative as an anti-collectivist . . . but Reagan Republicans are the collectivists of capitalism, and agribusiness is corporate collective farming, and U.S. Steel is stockholder nationalization.

In New Hampshire the ideal remains to work for yourself. Units of one are preferred: one-family mill, one-family farm, one-woman peddler and one-man logger. Veteran hippies move in, turning Libertarian in a climate that is almost anarchic. All labels falsify when they name cases. I think of an old friend in Danbury, in his late eighties now, salty as the Atlantic, who fought for his country in the Great War. At some point in his sixties he found in his mailbox a pension check—and he was infuriated. He sent it back with an insulting note. What do I want this for? He was a Republican for sixty years; Nixon changed that. Now he knows (and he feels foolish that he didn't always know): they are all scoundrels. Perhaps they are. And when we do not organize, we are helpless against them; one person, or a series of ones, battles without weapons against a corporation—as we discover when cotton mills or landfills become profitable.

In the conservatism of Rusticus there is considerably more Thomas Jefferson than Alexander Hamilton, yet New Hampshire's voters pile up majorities for Reagan's banks, deficits, and big business. Political labels deny manyness and complexity. If Lincoln's Republicans were radical on slave territory, they were conservative to maintain the Union; if the secessionists were conservative on slavery, they were radical as secessionists: radical and traditional. Magnolias, honor, Tara, and pure women erected a political lie of nobility to cover evil, the usual lie that helps us to think well of ourselves, to call ourselves good when we know ourselves vicious. Nineteenth-century chattel slavery—slavery in 1860!—was morally as defensible as the Final Solution; nowhere, of course, were noble ideals so commonplace as among the SS; the courage of evil is an imperial commonplace. The British Empire's lofty burden, as it slaughtered native populations for their own sakes, mimics Rome, Spain's American policy, and America's Spanish-American policy; we need not mention a more recent conflict.

In the ethics of Rusticus, the noble lie that masks evil is Proud Independence. We cannot compare its vice to slavery, pogroms, or napalmed villages, but it is worth acknowledging that freedom from taxation imposes suffering on the poor, on the insane, and on the otherwise handicapped; that New Hampshire, refusing to fund Medicaid, ruins families with ill children; that laissez faire, with its abhorrence of zoning, allows corporations to own dumps that murder ponds and probably people; that Proud Independence is an illusion of the many that serves the greedy few.

Not that notions of independence are without cultural benefit. For one thing, the culture of Rusticus encourages eccentricity, and eccentricity valued promotes toleration of diversity. Three-quarters of the stories I hear—"Did you hear about the time old Meacham made skunk stew?"—celebrate divergent behavior; a few famous eccentrics, dead fifty years, get talked about every day in Danbury. Social results of this enthusiasm are varied and useful. In the countryside only, never in city and suburb, old and young live next to each other, rich and poor, foolish and shrewd, educated and semi-literate. As the sexes have traditionally separated their functions less, as traditionally there has been less hierarchy among trades and occupations, so sparseness of population mixes neighbors at random, and the trailer or the shack squats two hundred yards down the road from the extended, huge late-eighteenth-century farmhouse spruced up with fresh paint on clapboard and shutters. At church and store, garage and rummage sale, the neighbors in their variety tolerate each other and talk. In the neighborhoods of massclass, the suburban ghettos quilt-patterned with hierarchy, old and young are as separated as rich and poor. Alienation breeds fear that wears the costume of contempt.

The social ethic of this varied Rusticus culture is niggardly in public and charitable in private; generosity is permitted as long as it appears voluntary, whimsical, responsive, and unplanned. When the house burns down to the cellar hole, next morning among rags of smoke the pickups stop by with clothing, food, and furniture. Ideas of work live at the center of this ethic, and the finest Rusticus compliment is "She's not afraid of a day's work," pronounced *wuk*. Variety of competence is as valuable as diligence. Half the men can build a house from cellar to shingles. Such versatility is historical. In the old days, everybody was a farmer, including preacher and lawyer and doctor, and every farmer could turn a lathe or operate a forge. Further back, the farmer made shoes winter evenings while his wife made clothing. She began with the sheep's wool or flax fibers, dried or carded, spun, woven, cut and sewed; she ended with dress, trousers, and work shirt. Grandfather and grandmother Rusticus were part-time everything—wagon maker, soap and candle maker—and their descendants remain jacks-and-jills-of-all-trades, unlike the specialist citizens of suburbs and cities.

On the old general farm—eight Holsteins, fifty sheep, two hundred chickens, five pigs; ice chopped from the pond in the winter, to cool the milk of summer; cordwood cropped for heat and cooking, for canning and sugaring, probably for sale; vegetables raised for the summer table and for canning; field corn grown for the cattle's ensilage—man and woman worked equally. The women who worked just as hard as the men neither voted nor as a rule owned property. Nonetheless, it is not merely ironic to speak of egalitarianism in the workload of the sexes, because work makes pride and equality of labor confers value. Of all the aggressions on the female inflicted by male industrial culture, surely the most destructive was enforced decorative leisure, useless ornamentation, despairing conspicuous inutility. In the growth of capitalism, the sexes in the middle and upper classes specialized: men worked and women demonstrated by their leisure the man's prosperity. This arrangement drifted down from aristocrats—where the man was equally gifted with uselessness—to the urban middle class in the late eighteenth century and became epidemic in the nineteenth century along with consequent female neurasthenia. Middle-class women were not allowed to do anything useful; and if their males died or failed or went crazy or alcoholic, there was no system of support—

proving again the importance of males. As late as the 1930s, when my mother left the farm and accommodated herself to the massclass life of Connecticut, wives did not take jobs. She had been a teacher and only virgins taught school. Although my father's weekly wage was small, maybe sixty dollars, it was Depression times: as part of her acclimatization, she hired a girl, five dollars a week, to clean house, cook, and serve dessert for bridge on Wednesdays in a black dress with a tiny white apron over it.

Her mother, at the same age, made soap. Every night the whole family gathered in a circle around a high table with an oil lamp on it, as the women sewed socks, basted hems, knitted mittens, crocheted, and tatted. While the mother ruled her house-empire, the father remained all day outside in his domain of barns and sheds. Think of my mother growing up in this world and after the brief transition of college moving to Connecticut, where the maid picked up the teacups after bridge on Wednesday afternoons. Now it is true that in New Hampshire her mother sometimes hired help. When crews worked at harvest, she hired a woman who lived nearby to make pies all morning for ten cents an hour. Because the helper valued her self-esteem, she would go home in the early afternoon, eighty cents richer, change into fancy clothes, and return as a neighbor for whom my grandmother would construct a cup of tea.

This story reminds me of an anecdote Henry James tells. When he wrote *The American Scene,* returning from decades of English life to his brother William's summer place in Chocorua, he wrote lyrically of landscape—and skeptically of New Hampshire's egalitarianism. New Hampshire lacked "the squire and the parson"; James missed measure and order, and lamented "the so complete abolition of *forms.*" He appears shocked, for our amusement, as he tells about a rustic, to whom he ascribes cynicism, "who makes it a condition of *any* intercourse that he be received at the front door. . . ." This rustic, thoroughly disingenuous, asks the summer person who opens the door, "Are you the woman of the house?" in order to deliver a message from someone he calls the "washerlady."

This is a story about manners, and therefore about *form.* The characteristic teasing humor of Rusticus is accomplished by careful misuse of language. One common form of this humor derives from literalness: "Why is Dean pulling that big chain along?" Answer: "Ever see anybody trying to push one?" Another is self-mockery of proverbial cautiousness: "Say, is Car Morey your brother-in-law?" Answer: "Well, he was this morning."

Manners. When I lived in Ann Arbor, I suffered from ironic deference. People deferred to me because I wrote books, an activity with prestige in the academy where worth is measured by column inches of bibliography; they were ironic because they could not abide their own deference. Living on Route Four, I suffer from no such burden. It seems not to occur to anyone that I might think myself better than they are because I write books. Why should it be better to write books than to build houses or grow blueberries? Better is not an issue: I am doing what I want to do and what I can do; so are other people, if they are sensible and fortunate.

Not that class Rusticus is without its own systems of superiority. If it were not known that I worked hard, I would feel disapproval. The general ethic praises work, and hard-working pillars of the community find laziness contemptible. Naturally there are lazy people about, working now and then in harvest or cutting summer brush on a ski slope or shoveling snow off the tracks in February—feckless, agreeable, sitting around in the summer twilight with a six-pack. I mean, of course, to distinguish the self-appointed bum from the unlucky, from the insulted and injured, from the congenital unemployable *poor:* of course, it is commonplace for Rusticus as Republican to deny the distinction.

Women of the rural culture remain indistinguishable as workers from the men. Bum-women lie about with their six-packs; pillar-women work fourteen hours, and now, like their men, labor at factory jobs before they come home to continue working. The forty-hour week is unknown: Rusticus works either eighty hours a week or zero. If I brag to a neighbor woman that I have just frozen sixty pints of tomatoes, I hear a counterboast that puts me in my place: four hundred eighty pints, of everything. A forty-hour week may pay for mortgage or for taxes; then you are free to improvise, to do what you want to do, to raise pigs and cut cordwood, fish through the ice, sharpen saws, tear down a barn, hunt deer, build a house. In the nineteenth century, farm boys took jobs at the same shop in Andover because they had to work only twelve hours a day, six to six, only six days a week, and they paid you real money for it; it was a week on Hampton Beach compared to the farm. When the boss turned soft, around the turn of the century, and closed the mill at noon on Saturday, old-timers were contemptuous: "That's not a week's wuk!"

Once this ethic of work was common in the United States, when most people lived outside cities. Even Hamden, Connecticut, was a town of farmers providing milk and produce for the port of New Haven. In the eighteenth century, Eli Whitney used water power (the outlet of today's Lake Whitney, alongside Whitney Avenue) for his gun factory and built houses for his workers; Whitney's Village became Whitneyville, the section of Hamden where my father grew up. His grandfather Charlie Hall labored building the New Haven reservoir in 1860 or 1861, off Armory Street in Hamden near the old Whitney factory, and at noon one day he walked off his job and trudged three miles into New Haven, where he enlisted to fight for the Union.

Charlie was a day laborer, and became a farmhand in Spring Glen further out Whitney Avenue in Hamden. When he was old, one of his duties was to deliver his boss's milk to the neighbors. He fought with his boss, quit, and took his customers away—buying raw milk from another farmer. His son Henry, who was my father's father, quit school after fifth grade and picked strawberries for ten cents an hour. When his father died, Henry hired help, expanded the milk route, and in the 1920s combined with Charlie Brock to make the Brock Hall Dairy, which delivered fresh milk every day from horse-drawn carts all over New Haven and the thriving suburbs that surrounded it. When he died at ninety-one, Henry lived in a modest suburban house built over the strawberry field where he had earned ten cents an hour. The dairy he made from almost nothing had grown like a weed and paid four hundred employees. My father worked for him, and like Henry, he once knew every worker's wife's uncle's name and ailments, and bosses were workers too. Growth stopped all that. After the war, I remember walking across the parking lot: my father was in his forties, and he wore a straw hat and a brown suit and a necktie; he nodded his head with a quick smile at a nameless boy washing trucks; the boy was my age and I looked at the pavement, the boss's son. By the time my grandfather died, long after my father, the dairy was failing.

Hamden did not fail. Hamden High School shot up in a farmer's field half a mile from our house about 1940. After the war came the Hamden stores around macadam parking lots blacking over old farmland. In the 1970s condominiums arose behind the stores, high on the hills overhead; traffic lights blossomed everywhere, amidst bustle and confusion and change. By the mid-1980s the shopping centers turn dingy, and our history becomes thirty seconds of film collage, not slow like Eisenstein or a Marx Brothers movie, but accelerated like a TV commercial. In Whitneyville where I watched the huge brick Brock Hall building rise when I was in kindergarten, wreckers and bulldozers have leveled it and another condominium takes its place. Next door, where I attended the opening of the Whitney Theater before the war, dozers wait to knock down the theater and the little row of shops beside it on Whitney Avenue to make way for more condos. After condosaurus has ruled its moment, some new disaster will wipe it out. Another creature will walk in its place while its cinder-block bones sink on top of Eli Whitney's gun-workers' cottages and the bones of shaggy dairy horses.

Henry James in *The American Scene* spoke of New York as a "vision of waste" because of the destruction of good houses "marked for removal, for extinction, in their prime." Once, New York was vanguard and template. John Jay Chapman (1862-1933) was a New Yorker who admired the exuberance of his town but who had been modified by Massachusetts after a tour at Harvard. "New York is not a civilization," he once said. "It is a railway station. . . . The present in New York is so powerful that the past is lost. There is no past. Not a bookshelf, nor a cornice, not a sign, nor a face, nor a type of mind endures for a generation, and a New York boy who goes away to boarding school returns to a new world at each vacation." On the other hand, "in Massachusetts you may still stop the first man you meet in the street and find in his first remark the influence of Wyclif. . . . It is one-sided, sad, and inexpressive in many ways. But it has coherence. . . ."

If we consult George Higgins about "the influence of Wyclif," he may question our experience of Brockton.

Nor would one find much coherence, now, even on Marlborough Street. New York is a model for city and suburb from sea to shining sea. When Thomas Hardy wrote a preface to Far from the Madding Crowd, twenty-seven years after its first publication, he wailed a familiar complaint of alteration and loss. After lamenting the disappearance of rural customs, he went on:

> "The change at the root of this has been the recent supplanting of the class of stationary cottagers, who carried on the local traditions and humours, by a population of more or less migratory labourers, which has led to a break of continuity in local history, more fatal than any other thing to the preservation of legend, folk-lore, close inter-social relations, and eccentric individualities. *For these the indispensable conditions of existence are attachment to the soil of one particular spot by generation after generation.*"

My italics. The unhistorical may smile at the date of 1895; the present's creature thinks that because people complained a hundred years ago as they complain today, the complaint must be constant and not the matter complained of. But a hundred years is a wink in history. Hardy's complaint was valid in 1895; it is valid now.

What surprises me, I suppose, is the holding-out: for despite Hardy's pessimism, and my own when I was young, there is resistance to the murder of the past. Rusticus is a series of eccentric individualities indeed, complete with legends and folklore, and this culture will persist at least into the twenty-first century. When Japanese soldiers hid out in caves thirty years after the war was lost, the war was not lost for them. Italian hill towns, settled by Greek colonists long before Christ, spoke ancient Greek halfway through the twentieth century.

In New Hampshire over the decades of Hamden's destruction, the look of the land has altered. But only a bit. When I alighted at the West Andover depot in 1939, my grandfather drove Riley and the buggy past a series of dying one-man farms. The farms and the men and the horses and the depot are dead, and stone walls that once marked pastures for sheep and cattle now keep pine trees from wandering into Route Four. But the houses mostly endure. In the culture of Rusticus, tearing things down is as wicked as fecklessness. Nothing separates massclass culture from Rusticus more than the country dedication to preservation and continuity. When the University of Michigan, inheriting a beautiful Federal house on State Street in Ann Arbor, sold it and it was torn down for a fast-food franchise—I did not make this up!—there was only a resigned shaking of heads.

Returning here, I told myself that I came back to house, hill, and pond, the inhuman environment, and that, after all, my work was such that I could do it anywhere. Of course, I discovered or rediscovered that the people were better than the hills. I had not suspected so, I think because I had made a decision in my twenties not to live here. In the spirit of Aesop's fox, I disparaged the New Hampshire present; it was the rejected alternative. When I came back in 1975, to live where I wished to live, I found myself among other people who live where they do because they wish to and for no other reason. Ann Arbor (Berkeley, Madison, Hamden, Atlanta, and Shaker Heights) is largely composed of people who live where they live because that's where the job is. They will leave when a better job comes along elsewhere, the "migratory laborers" of the prosperous massclass. A saying, repeated at parties in Ann Arbor, is common to every campus of the University of America: "One third of the people in this room were not in town last year; one third will not be here next year." The sentiment is unknown in Danbury and in Andover.

Rusticus lives where he does because he wants to. Anybody with a skill and an appetite for work can make more money elsewhere. People who build houses can get twice as much an hour if they migrate two hours south. Many leave to follow the money—and return, shaking their heads, surprised that they will put up with less income for the sake of place, determined to do just that, not martyrs, just un-Americans of happy, voluntary low income. People who remain here are self-selected partisans of place; many were born here, after parents, great-grandparents, and great-great-grandparents. Many moved here because they liked the look and feel of it. Some came here because of a job and then refused to be transferred elsewhere. They are un-American because they prefer land, place, family, friends, and culture to the possibilities of money and advancement. Now, of course, many Americans prefer something or other over money, but most of us feel guilty when we do anything except for money; a man is not manly or decisive if he admits a motive outside money. But no one remains in rural New Hampshire for the money. Everybody living here hangs out a sign: I do not care so much for money as you do. Therefore, the massclass, shaped like summer people, exploits the native . . . and the native, secure in a secret superiority, laughs back. This is the "cynicism" of Henry James's rustic.

Indifference to money is not proof of virtue; ax murderers are notoriously indifferent to the wages of their profession. It depends on what you love instead of money, or on the mix of motives. Many people remain here not only out of love but out of dependence or perhaps inertia. Maybe it makes one happy to be place-bound or family-bound, but it limits one's possibilities of becoming a ballet dancer or an astronaut. In my family that has stayed here forever, I hear this limitation in many stories: Aunt X started normal school over to Plymouth, an hour away, but took sick and came home and never did go back: homesick. Uncle Z, with a job in a sawmill, worked only part-time because the mill was doing poorly. He found a job doing the same work, four hours west in Vermont, at twice the money. But soon he was back at the old job, and would make do, looking for odd jobs to buy shoes for his children. He missed his brothers and his old mother.

But the love of place shows itself true in a hundred ways. We returned to an 1802 house, including an unrevised 1802 chimney, which had gone with insufficient upkeep during my grandmother's eighties and nineties. As we shingled, painted, replaced a chimney, and repaired, people constantly thanked us when we met them in stores or at Old Home Day: "Good to see the old place coming back." Strangers parked their cars, as we worked in the garden, to praise us for keeping the old house alive.

The land, not the scenery, is dearer than I credited. Once at our church our summer minister—pushing eighty, he lives in the farmhouse he was born in—asked us to come next week prepared to speak about something we liked to look at. Next week he could hardly get his sermon in, as his normally taciturn parishioners gabbled their love: the Jack Wells brook where it dropped over the little rapids; the noble stretch of double stone wall by Frazer's place; the patch of wild day lilies at the base of New Canada Road; the way Kearsarge changes color in dawn light month by month all year, green and blue and white and lavender; the gaunt and bony ruin of the old mill's foundation.

The main link that joins us together, and separates country people from the massclass, that ties rural North to rural South, is connection to the past. We love the house, not just for its lines or its endurance, but because people were born and died here; we love the mountain, not only because it is beautiful, but because we know the dead who gazed at it every day of their lives and left behind testimony of their love. House and mountain connect us to the past. These connections are strongest for true Rusticus; they are also strength for emigrants from massclass who join themselves to the rural culture. They prevail not only among the inhabitants of white farmhouses but among shack-people who approach the flatlander's stereotype. Not all shack-people, of course, not all green-shutter-people, either. . . . But connections in this culture *prevail.*

In the last decade or two, all the little towns have started historical societies (I belong to the Danbury, Wilmot, Andover, and Northfield historical societies), which meet sometimes for invited speakers with special knowledge (railroads, Shakers, watermills), more often with a neighbor who brings photographs to show and stories to tell. Historical societies sponsor museums: in the Wilmot Town Hall, in the Flat, we keep a room with old photographs, Civil War memorabilia, old farm tools, clothing, flags, and typed-up reminiscences. In Andover the elegant Potter Place Depot, a glory of Victorian gingerbread, donated as a museum to the Andover Historical Society by people who bought it for an antique shop, itself forms exhibit number one.

Historical societies could be fads, like the gentrification of old parts of cities, but I think they represent deep mind-habits; they are story telling turned into institutions. The section of Andover called Potter Place took its name from Richard Potter, celebrated magician and ventriloquist of the early nineteenth century, who spent his show-business fortune to build a mansion in Andover that burned when my mother was a girl. He died before the railroad came, but when they built the depot near his house, they named it after him. More than a hundred years after his death, my grandfather told me trickster stories about Richard Potter, "fellow used to live around here"—how he avenged himself on an enemy-farmer by hiding in the bushes and casting his voice so that the brute heard a baby crying from his load of hay, emptied his hayrack, loaded it again, heard the baby cry again. . . . My grandfather neglected to mention one piece of information about Richard Potter: either he did not know, or it seemed unimportant, that he was black.

In most of the United States, you do not hear stories about a "fellow used to live around here" a hundred and fifty years ago. In most of the United States, you know that the lawn you water was desert or apple orchard or strawberry field until 1957—and that is all you know. Americans dislike the past. Or they simply adore it and lump it together in a glossy product of generalized nostalgia, *olden times,* a decorative and disconnected alternative to the present. The ornamental past enforces the dominance of the temporary.

W. H. Auden remarked that the mediocre European is possessed by the Past and the mediocre American by the Present. For mediocre I would substitute something less invidious, like "normal." At the same time, one must observe that many of the cleverest and most inventive Americans—Benjamin Franklin, Thomas Jefferson—were possessed by a Present. Ralph Waldo Emerson, with centuries of accumulated knowledge and culture burdening or prisoning him, spent a lifetime protesting independence of history, authority, religion, and order; his intelligence served the disconnections of stupidity. But if many bright Americans are possessed by the Present, *all dumb Americans are.* An unexamined assumption of massclass culture is that such possession is a duty, and twin results are the torn-down Federal house and the bright Toyota.

In northern New England, in Wendell Berry's Kentucky, and in other rural places, the culture suggests and supports connection to a continuous past that lives in the air, in relics, and mostly in the stories that old people tell. Everywhere are historical societies and antiquarians, but without the living linkage of stone wall, Civil War soldier, and story, library antiquarianism is documentary and disconnected. It is better than nothing, because it gives evidence of our famine, of need for the nutrition of historical connection against the thin, bare, accelerated moment. Perhaps the recovery of old parts of cities—in Chicago, Washington, Boston—is not merely faddish but more testimony of hunger.

Americans can almost be defined as the people who lack history, who immigrated here to escape a nightmare from which they could not wake. Current protests about the unhistoricism of the American young only repeat and multiply complaints that started before the Revolution, that the successful and blessed Revolution only accelerated. But the narrow present turns into the worse nightmare, and as always we divorce for the same reasons as we marry. In *The American Scene,* still in New Hampshire, Henry James spoke of the land "not bearing the burden of too much history." But he continued:

> "The history was there in its degree, and one came upon it, on sunny afternoons, in the form of the classic abandoned farm of the rude forefather who had lost patience with his fate. These scenes of old, hard New England effort, defeated by the soil and the climate and reclaimed by nature and time—the crumbled, lonely chimney-stack, the overgrown threshold, the dried-up well, the cart-track vague and lost—these seem the only notes to interfere. . . ."

The word is "defeated." The country north of Boston ended up as defeated, after the Reconstruction, as the South was. Southern cotton mills started the decline and fall of the northern mills, and the opened western country took New Hampshire's farms away. Defeat is melancholy but it creates historians; it provokes connections, while victors remain trapped in shallow and prosperous modernity.

Now the New Hampshire dirt, and the dirt of South Carolina, does not extend deep into past time. We dig to find no Roman roads, only artifacts of the nomads who first migrated into this wilderness and hunted bear on these hills or trapped raccoon by these ponds a few thousand years before the Europeans arrived to blast them away. When we dig in the soil of England, we dig into Stonehenge and Othona; yet England is young, compared to the soil of Italy, Greece, Egypt . . . and China; while shaggy Homers improvised hero stories in analphabetic Greece, the Chinese assembled their first dictionary.

But how much history does the soul require? Hardy's "indispensable conditions" are "attachment to the soil of one particular spot by generation after generation." How many generations is that? Three is too few; four or five may be sufficient. Let me announce Hall's law: when 50 percent of the local population remains aware of the maiden names of its great-grandmothers, or can visit the graves of ancestors born two hundred years ago, or can tell stories handed down from a century and a half ago, the spirit's necessity for connection may be satisfied.

The family story of Hannah Dustin differs so much from Cotton Mather's version that I suspect it derives from another seventeenth- or eighteenth-century ancestor, switched in the telling to the famous name. Of course the truth of it, unascertainable, never matters; the felt connection matters. Another story I remember concerns a male ancestor who fought the French and Indians. Retreating with an outnumbered patrol, my storied forefather volunteered to return alone through the woods to their abandoned camp in order to retrieve the cooking pot they had inadvertently left behind. He found it, but on his solitary return he heard the sounds of a war party in the woods. He hid in the hollow trunk of a fallen tree, and moccasined feet pattered over his shelter; he waited, he emerged, he returned safely home. Was the log big enough to hide the pot in? Did he set it upside down on the ground, hoping it might be passed over for a stump? No one could tell me. When I walk in the woods I look for a rusted pot.

Inhabitants of Danbury, New Hampshire, lack the hunger that citizens of Hamden, Connecticut, feel. We live in an air of connections—with stories of Indian fighters, of famous hermits on Ragged Mountain, of how they built the road through the bog, or how two hundred oxen pulled the mast-tree all the way to Portsmouth, or when the boys marched off to fight Johnny Reb. Connections to the past imply a future. Without past there is no future.

If the present's partisan charges that Rusticus "lives in the past"—a sin against America—I claim that only our connection with the past validates the present; the exclusive present is psychic desert. Americans pay homage in the church of work to the religion of money and the present, but in their private houses they are despairing atheists. Epidemic despair derives from the violated need for connections. This denial started when we left Devonshire and Calabria, the Norwegian farm and the shtetl in Galicia. We left for good reason: some connections braid ropes that tie us down; hierarchical structures prevent motion, invention, or discovery, in the name of the fixed relation of part to part, like the planets and the sun that circled the earth. Therefore we sailed two months in an eggshell across the tall Atlantic into a wilderness sparsely populated by a people that, understandably enough, came to regard us as a source of protein.

But the same forces that shot us loose loosened the acceleration of energy, which by Henry Adams' law doubles every ten years. Adams looked back on a life that began with the railroad, doubled into the dynamo's coal-energy, and quadrupled toward petroleum with the motorcar and the airplane. Eighty years after the expression of his law, acceleration continues its regular progression. Now the human system—*that lived in one town for five hundred years—generations of stone masons living on the same cobbled lane to build the cathedral, quiet centuries without technological change—interrupted for slaughter, for Crusade and conquest and Inquisition—has arrived at a panic-present of continual speed, Paris for lunch and New York for dinner, divorce tomorrow in Santo Domingo, and the human system requires pills, dope, alcohol, violence—possibly not greater in quantity, for the quantity has been constant, but violence wonderfully greater in quality; as Henry Adams put it in 1904: "bombs educate vigorously"* — falters, starves, and dies in the desert of volatility. Against accleration, Rusticus and its emigrants raise entropy's flag with this strange device, not Excelsior but Lentior. *Slow down.*

E. M. Forster's "Only connect" implies lateral, social, and geographical connection. It is good advice, and it works best when lateral extent is bisected by vertical connection to the dead, to the old persistent earth of graves and foundations, upward into connection implicit with the divine and the unborn, contracted with the earlier-born, earlier-flourished, earlier-dead. In America outside the historian's library and the antiquarian's museum, the lived past thrives where people live with their dead, separated from the brutality of change, the filmic witness of buildings rising and falling in Hamden, Connecticut, the universe new every thirty seconds.

We are Lentior's vanguard, stewards of human connection. History records straight lines. As the nuclear plants shut down, let the word go out: *the world of tomorrow is delayed until further notice*. While present-livers expand themselves in acceleration, speed canceling their bodies, let us spend quick lifetimes telling old stories while we stand on dirt thick with the dead.

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# Seabrook: A Case Study in Mismanagement

*Irvin C. Bupp*

*The Seabrook nuclear power plant construction project is an unqualified financial disaster. It simultaneously threatens its chief owner, the Public Service Co. of New Hampshire (PSNH) with bankruptcy and the company's electricity customers with huge rate increases. The fifteen-year history of the project is reviewed to identify "what went wrong?"*

*The review suggests that the basic problem has been mismanagement by both PSNH and by government regulators. A three-year regulatory imbroglio over the environmental effects of the plant's cooling system was extremely costly in the mid-1970s.*

*By the time this problem was belatedly resolved, the project had begun to outstrip the financial resources of its owners. These resources were seriously weakened by a political battle over how to pay for construction costs.*

*By the end of the 1970s, the risks of proceeding with Seabrook were beginning to exceed the benefits. PSNH management, however, chose to accept these risks, in effect betting their company that the project could be completed.*

*Underlying many of Seabrook's problems are certain federal nuclear regulatory policies and practices whose roots go all the way back to the Eisenhower administration. These policies are also briefly reviewed.*

Ten years ago nuclear power was advertised as an important part of America's strategy to deal with OPEC and rising oil prices. Today, however, many Americans face the prospect of huge increases, not decreases, in their electricity bills as new nuclear power plants are brought into service. Other Americans have seen the value of their investments in the stocks and bonds of electric power companies that are building nuclear power plants shrink to a small fraction of their previous value. In New England, the customers of the Public Service Company of New Hampshire (PSNH) are in the former group and the company's creditors and shareholders are in the latter. The cause of these problems is the Seabrook project. Seabrook is a partially built, 2,300,000 kilowatt nuclear generating station whose principal owner is PSNH. Today, Seabrook stands as an unqualified financial catastrophe, simultaneously threatening PSNH with bankruptcy and the company's customers with staggering electric power costs.

The following article reviews the fifteen-year history of Seabrook, highlighting certain key actions and the decisions of both PSNH and federal and state regulatory authorities that led to this catastrophe.[1] This review shows that there is no simple answer to

*I. C. Bupp is Director of Utilities and Energy Management, Cambridge Energy Research Associates, Cambridge, Massachusetts.*

the question "what went wrong?" But it also suggests that a large part of the answer is captured by a simple concept: mismanagement. Both PSNH executives and regulators at times failed to do their jobs efficiently and effectively. Government agency policy shifts hindered the project's early years. Although PSNH management may, too, have made some early errors in judgement, their truly costly decisions were made in the last four years. Since at least 1980, Seabrook's owners have had clear warnings of the financial disaster that is now happening. Unlike the owners of other partially built nuclear power plants, they have not responded to these warnings by abandoning the project in order to lessen the impact of the ensuing financial damage.

## Nuclear Power in New England

As a preliminary to a discussion of Seabrook, some general background information about nuclear power in New England will be helpful.

Nearly three-quarters of the nuclear power plants that are currently operating in the United States were ordered before the 1970s. The majority of these plants were ordered during the heady years of unalloyed optimism about nuclear power, between 1965 and 1968.[2] Although there were already some apparently unsettled questions about the potential dangers of large nuclear power plants, these questions came from persons or organizations that at the time seemed to hold opinions contrary to technical and economic "facts." These facts were essentially unanimously agreed upon within the contemporary business and government establishment; accordingly, America's leaders, indeed the world's leaders, fully concurred that nuclear power was both cheap and safe.

Incorporated in 1926 as a consolidation of several smaller power and light companies, PSNH, over the following years, acquired about twenty additional small electric utilities to become the largest utility in New Hampshire, serving the needs of a growing number of customers. In the late 1960s very high population growth was forecasted for New Hampshire during the 1970s and 1980s, thus increasing electric power needs. Most estimates indicated 3.5 to 4.0 percent annual growth rates accompanied by correspondingly high demands for electricity. PSNH staff members were predicting electricity demand growth of 7 percent throughout the 1970s and few, if any, informed persons would have quarreled with them.[3]

PSNH's prior experience with nuclear power, while limited, had been extremely satisfactory. Moreover, given the concurrence at the time over relative safety and expense, it was not surprising that nuclear power came under consideration as a possible solution to these potential rising demands for electricity. Hence, the initial decision by PSNH management in 1969 to "go nuclear" was neither surprising nor controversial. In the late 1950s, a consortium of New England utilities, with financial help from the United States Atomic Energy Commission (USAEC), built a pioneer nuclear power plant. The Yankee plant, a 188,000 kilowatt facility located in western Massachusetts, began operating in 1960 and subsequently proved to be remarkably reliable. PSNH owned 7 percent of Yankee. In addition, the company owned 4 percent of Connecticut Yankee, a 565,000 kilowatt nuclear power plant also built with United States government aid. Connecticut Yankee became operative in 1967 and also had a good performance record. Both Yankee plants were tremendous bargains for PSNH. For an investment of only about $10 million, the company owned approximately 100,000 kilowatts of reliable generating capacity.

In 1969 the management of PSNH decided to build a nuclear generating facility at Newington, near Portsmouth. However, the USAEC rejected the company's application for a construction permit on the grounds that the proposed site was too close to Pease Air Force Base. The USAEC ruled that the risk of a B-52 bomber, which carried nuclear bombs, accidently crashing into the generating plant was unacceptably high. The agency prohibited PSNH from building a nuclear power plant within a ten-mile radius of Pease, thereby eliminating several alternative sites that had been selected by the company. An extensive search for an acceptable site lasted two years and culminated in 1972. A site was chosen several miles from the town of Seabrook on New Hampshire's eighteen-mile Atlantic coastline. Four reasons were given for selecting Seabrook: the ocean was a convenient source of cooling water for the power plant; the site was accessible by barge, which would help minimize construction costs; the site was reasonably close to the company's major electricity demand centers; and the site offered a stable granite foundation.

PSNH awarded an $80 million contract to Westinghouse to build two 1,150,000 kilowatt nuclear steam supply systems. Company spokespersons said that the first of the two units would be completed by 1979 and the second by 1981. The Seabrook Nuclear Station would supply 70 percent of New Hampshire's electric power needs during the early 1980s at a cost estimated to be 60 percent cheaper than oil and 30 percent cheaper than coal. These plans were presented to a Seabrook town meeting and were met with an enthusiastic response as the town selectmen noted the significant revenue benefits to the community. Those at the town meeting unanimously approved the PSNH plan.

The 1972 population of Seabrook was about five thousand during the winter, when it was chiefly a fishing port, and about six thousand in the summer, due to tourism. Behind the town's rather rocky beaches were salt marshes and tidal estuaries serving as a habitat for a variety of marine life and birds.

During the months following the plan's approval, however, local opposition to the Seabrook nuclear power plant began to develop among a diverse assortment of groups. Numerous questions such as the following were raised: Would the nuclear plant hurt the town's tourist business? Would it promote further industrialization of the scenic New Hampshire coastline? Was the plant being built too close to an old earthquake fault? Was the electricity from the plant really necessary? One question, however, soon stood out as an especially troublesome one for PSNH. What would be the effects of the plant's "cooling water" discharge on the local marine ecology?

## The Cooling Tunnel Imbroglio

After pressurized steam passes through the power-producing turbines of any steam-driven electrical generating plant, that steam must be condensed into liquid before it can be sent back to the plant's boiler. Some "heat sink"—in practice, relatively cool water—must be available to absorb enough heat from the steam to condense it.

PSNH had two alternatives in solving Seabrook's "heat sink" problem. After condensing the steam, the now relatively warm ocean cooling water could be sprayed into 500-foot cooling towers where its heat would, in turn, be dissipated into the air. However, since some of this water would evaporate into the heated air, a mist of rain would form as the air later cooled. Because the plant was so close to the ocean, this rain would contain salt that threatened to harm the environment. Because of this, the AEC determined that cooling towers were not acceptable at the Seabrook site. This decision meant that PSNH would have to use the ocean as the heat sink for its nuclear power plant. The company's plan called for the construction of two 19-foot-diameter tunnels, each running 1.5 miles into the ocean. One tunnel would draw in more than one billion gallons of water per day and the other would discharge an equal volume, at a temperature about forty degrees warmer than the intake stream.

In early 1975 the Seacoast Antipollution League argued against the cooling tunnel plan in hearings before John McGlennon, the regional administrator of the United States Environmental Protection Agency (EPA). The League's witnesses contended that the discharge of hot water into the ocean would endanger shellfish and other marine life. Witnesses for PSNH disagreed. In June 1975 McGlennon approved the cooling tunnel plan. Thirteen months later, the AEC's successor, the Nuclear Regulatory Commission (NRC), issued a construction permit for the Seabrook facility and work began at the site. But the Seacoast Antipollution League and others who opposed the plant refused to give up. They appealed to McGlennon to reverse his initial decision and in November 1976 he did so, on the grounds that the cooling tunnels would cause unacceptable damage to the local marine environment. This decision about the cooling tunnels meant that the NRC was obliged to rescind Seabrook's construction permit, which it did on January 21, 1977. Four days later, however, the NRC suspended its own order, stating that the matter raised complex legal and policy questions that had ramifications for other nuclear construction projects. However, after subsequent public hearings, and about a month of deliberation, the NRC again canceled Seabrook's construction permit and ruled that PSNH would have to get the approval of the EPA director for the cooling tunnels in order to regain its permit to resume construction.

In June 1977 EPA Director Douglas Costle overturned his regional administrator's decision, determining that the tunnels were environmentally sound after all. This new decision cleared the way for construction to restart on August 1. The Seacoast Antipollution League took Costle's decision to the federal courts. In October 1977 the United States Court of Appeals in Boston denied the League's petition for a stay. Meanwhile, the NRC reversed its 1972 position on cooling towers, saying that this alternative to tunnels was now acceptable if the EPA decided that they were necessary. But the Seacoast Antipollution League had not exhausted its rights in court. The Court of Appeals decision was successfully appealed to the United States First Circuit Court. In February 1978 the Circuit Court overturned Costle, holding that he had based his decision on evidence presented outside the record, and hence unavailable to the environmentalists for cross-examination. The entire matter was sent back to the EPA directors for reconsideration. Yet again, the Seacoast Antipollution League asked the NRC to withdraw Seabrook's permits, and on July 21, 1978, the NRC obliged. Two weeks later, Costle again found the cooling tunnels to be environmentally sound, and on August 10, 1978, work resumed on Seabrook for the third time in a little over two years.

In effect, the imbroglio over the cooling tunnels had paralyzed the Seabrook project for three years—from June 1975 to August 1978. The delay was costly: Seabrook was originally supposed to cost approximately $900 million. PSNH's share of approximately $450 million, reflecting its 50 percent ownership of the project, though large relative to the company's financial resources, was well within its means. Yet during the period of delay caused by the regulatory impasse, Seabrook's estimated cost rose alarmingly, reaching some $2 billion during 1976. The project's critics began to focus on costs and found a receptive public in New Hampshire.

The New Hampshire Public Utility Commission (PUC) was allowing PSNH to include a portion of Seabrook's construction costs in its rate base, thereby significantly lightening the financial burden on the company. In May 1977 the commission granted PSNH a 20 percent rate increase, half of which was attributed to Seabrook. The result of the increase was a sharp public outcry. In response, the state legislature passed a bill prohibiting Construction Work in Progress (CWIP) for retail power sales in New Hampshire. Governor Meldrim Thomson vetoed the bill and in the 1978 gubernatorial campaign, Thomson's opponent, Hugh Gallen, made CWIP for PSNH a major issue. Bumper stickers proclaimed: Whip CWIP — Vote Gallen. Gallen was elected, and shortly thereafter he signed new anti-CWIP legislation. By the spring of 1979, PSNH management had evidently decided that without CWIP the company could no longer support its 50 percent share of Seabrook. In March a spokesman announced that the company would try to reduce its ownership by at least 20 percent. He also announced that the project was now estimated to cost $2.6 billion. Seabrook was clearly already in deep trouble.

One of Seabrook's problems was the *real* technical uncertainty about the precise effects of warm water from the tunnels on local marine life. Moreover, these effects had potential commercial significance on local industry. Of course, it is possible that John McGlennon, a lawyer who had frank political ambitions, made decisions motivated by political considerations. It is also possible that his boss, Costle, was similarly motivated. Both men may have played "fast and loose" with scientific data and opinion to serve political ends. The key point, however, is that the range of disagreement among experts on the basic technical issue of cooling towers was wide enough to sustain contradictory policy conclusions. Hence, it is equally possible that both McGlennon and Costle were honestly trying to make the most responsible decision they could in the face of technical uncertainty. Indeed, throughout the thirty-year fight over nuclear power, such behavior by public officials has been the rule, not the exception.

The February 1978 United States Court of Appeals decision illustrates another important feature of the way the administrative and legal system has dealt with technical uncertainty. The court's decision was entirely based on procedural, not substantive, issues. This situation is also typical of nuclear safety and environmental litigation.[4] The courts are extremely reluctant to second-guess the technical judgements of administrative agencies like the EPA or NRC. In 1978 the Court of Appeals did not rule on the question of whether tunnels were acceptable. It merely ruled that Costle had used inappropriate procedures for reaching his own decision.

## The Three Mile Island Accident Aftermath

In March 1979 the prospects for selling 30 percent of Seabrook seemed bright. The Massachusetts Municipal Wholesale Electric Company (MMWEC), a consortium of thirty-one small municipal power companies, offered to buy 14 percent, bringing its total ownership up to 20 percent. Several other small out-of-state utility companies expressed interest in shares totaling about 8 percent. New Hampshire wholesale utility companies were also potential buyers. Then came the accident at Three Mile Island (TMI) nuclear power plant, which began on March 29. In its aftermath, outside interest in purchasing part of Seabrook rapidly died down. In October MMWEC executives notified PSNH management that their consortium would only be able to increase its ownership by a maximum of 6 percent. The PUC barred PSNH from selling shares to

New Hampshire wholesale utilities and ordered the company to retain at least a 28 percent interest in Seabrook. In November, PSNH still held 35 percent and had few realistic prospects for further sales. Part of the problem was that United Illuminating Company of Connecticut, Seabrook's second largest owner, was trying to sell half of its own 20 percent share. In March 1980 PSNH raised the cost estimate for Seabrook to $3.2 billion, attributing much of the increase to design changes needed to comply with findings of the government commissions that had investigated the TMI accident.

By 1980 the financial implications of Seabrook had become potentially catastrophic for PSNH. To understand how grave the situation had become, consider the approximate and simplified 1980 income data for PSNH shown in Table 1.

*Table 1*

**Approximate Income Data, PSNH, 1980**
*(in millions)*

| | $ | $ |
|---|---|---|
| Revenues | 351 | |
| Fuel and Other Operating Expenses | −248 | |
| Net Taxes | − 38 | |
| Depreciation | − 17 | |
| Operating Income | | 48 |
| Interest | − 62 | |
| Allowance for Funds Used During Construction (AFUD) | 72 | |
| Other Income | 2 | |
| Other Net Income | | 12 |
| Total Net Income (earnings) | | 60 |

*Source:* PSNH Annual Report, 1980

The critical item is the $72 million *addition* labeled Allowance for Funds Used During Construction (AFUDC) to the category of operating income.

Most state public utility regulatory authorities forbid companies under their jurisdictions from earning a return on plant and equipment unless the facilities are "used and useful"—that is, operating. The basic rationale is that without such a prohibition utilities would over-invest in plant and equipment to the benefit of shareholders and the detriment of customers. The "used and useful" concept has deep roots in United States regulatory policy, going back to the first attempts to regulate railroads in the nineteenth century. The 1977-78 fight between the New Hampshire Legislature and Governor Thomson was only a recent battle in a war that has raged in American politics for more than a century. The war continues today.

Over the decades, however, the utilities have consolidated an important victory. While they are not typically permitted to include CWIP (or at least most of CWIP) in their rate bases, they are allowed to report a noncash addition to their incomes. In 1980 PSNH added to its reported earnings an amount equal to the hypothetical return that its investors would have received on the funds invested in CWIP if the assets represented by CWIP had actually produced revenues during 1980. This noncash credit to the company's income statement is balanced by a corresponding debit to the CWIP account on its balance sheet.[5]

The key point is that PSNH's $72 million addition was not a cash inflow to the company. It is analogous to the $17 million in reported depreciation expenses. PSNH neither paid out $17 million in cash on depreciation nor took in $72 million as AFUDC. It is important to note that this $72 million was more than 90 percent of the company's total reported earnings.

PSNH's cash earnings for 1980 were $23 million ($78 million plus $17 million minus $72 million). Yet in the same year the company paid $13 million in preferred stock dividends and $35 million in common stock dividends. These payments of $48 million certainly did represent a real cash outflow. On top of this, PSNH spent $161 million in capital markets. Table 2 summarizes the results:

*Table 2*

**Cash Flows, PSNH, 1980**
*(in millions)*

| | $ | $ |
|---|---|---|
| Net Income | 60 | |
| Cash Income | 5 | |
| Dividends | – 48 | |
| Sub Total | | (43) |
| Construction Costs | –233 | |
| External Financing | 200 | |
| Sub Total | | (33) |
| Decrease in Working Capital | | (76) |

*Source:* PSNH Annual Report, 1980

By 1980 PSNH management was liquidating their company in order to finish Seabrook. By doing so they were taking an appalling risk, for they were effectively betting their company that the project would be finished at approximately the cost and schedule then estimated. Yet *all* past evidence clearly pointed to the near inevitability of further cost increases and delays. The point of no return was rapidly approaching.

In 1980 PSNH's "writing off" of the sunk costs of Seabrook would have been financially painful but hardly fatal. At worst, common stock dividends would have been foregone for some period. But as the cost of the company's investment grew during the coming years, as management should have known it would, the threat of failure to ever finish Seabrook would become an increasingly mortal blow for PSNH as a going business concern.

## The Financial Fiascoes of the 1980s

During 1981 and 1982, management's liquidation of PSNH accelerated. In 1982 PSNH had a cash deficit of more than $35 million, yet paid common and preferred dividends of $75 million. The project's costs had, predictably, continued to rise, reaching $3.6 billion by the end of 1981. On January 12, 1982, the New Hampshire PUC ordered

PSNH to sell its 4 percent share in the partially built Millstone 3 nuclear power plant in Connecticut and gave the company six months to lower its Seabrook stake to 28 percent; otherwise, PUC said, it would order cancellation of unit #2. Three days later, PSNH's bond and preferred stock ratings fell "below investment grade," an ignominy shared at the time by only two other utilities: General Public Utilities (GPU), the owner of TMI, and United Illuminating, PSNH's largest partner in Seabrook. On January 18 the PUC ordered an immediate halt to construction work on unit #2. PSNH responded by taking the commission to court in December 1982, and the state supreme court overturned the PUC order. PSNH promptly announced that work on unit #2 would continue at a reduced rate, but that total project costs were now estimated to be $5.25 billion, mainly because of added interest charges.[6]

At the end of 1982 PSNH estimated its future construction expenditures as follows:

1983: $255 million

1984: $185 million

1985: $135 million

1986: $120 million

1987: $40 million

PSNH now was probably beyond the point of no return, with unit #1 standing no more than two-thirds completed and unit #2 less than one-quarter finished. In August 1983, the Connecticut PUC ordered the state's two Seabrook owners (Connecticut Powerlight Company and United Illuminating Company) to stop all payments for work on unit #2. In September 1983, PSNH halted all construction work on unit #2 "indefinitely"; and in March 1984 United Engineers and Constructors, the architectural engineering firm in charge of building Seabrook, informed PSNH that the total cost of the two units would be $10.1 billion.

In a subsequent public statement, PSNH "rejected" the $10.1 billion figure, claiming that the total project cost would not exceed $6.9 billion. Shortly thereafter, owners accounting for 59 percent of Seabrook voted to cancel unit #2. The project's joint owners' agreement, however, gave PSNH veto power over this decision, which the company's management promptly exercised. Then, two weeks later, in April 1984, PSNH management acted on their own initiative under the terms of the joint owners' agreement and ordered all work indefinitely halted on unit #1. Meanwhile, a management consulting firm that had been retained by the Massachusetts Attorney General testified before the Massachusetts Department of Public Utilities (DPU) that a "minimum best case" additional cost to complete unit #1 alone was $2.5 billion. A more realistic figure, the firm testified, was $3 billion, completion to take at least two and one-half years from the time work resumed.

In 1972 when PSNH embarked on the Seabrook project, its debt and preferred stock were rated a solid A, and the company was a healthy public utility in a high-growth service territory. Thirteen years and more than $2 billion later, the company is stuck with a 36 percent share of a half-built $5.25 billion project that threatens to cause bankruptcy unless it is finished and the company's customers begin to pay for it. Meanwhile PSNH debt and preferred stock threaten to run the firm into bankruptcy; its debt and preferred stock were rated well below investment grade, and over 27 million common shares had been issued, constituting a dilution of several hundred percent. Dividend payments on these shares have for several years been classified as "return of capital."

## What Went Wrong

The roots of the Seabrook debacle go back to the very beginning of commercial nuclear power in the United States; indeed, the seeds were planted nearly forty years ago.[7] In 1947 a new and uniquely powerful government agency was created and given full responsibility for developing the technology of atomic energy for both military and civilian purposes. For approximately the first ten years of its existence, however, the United States Atomic Energy Commission's top officials spent nearly all of their time and nearly all of the agency's money on military nuclear programs. In part, this was the unavoidable result of the magnitude of the task of building the stockpile of nuclear weapons, which was regarded as the keystone of the nation's defense program during the 1950s.

Significantly, the AEC's military tilt was also the result of a deliberate political choice. The agency's most powerful head during the Eisenhower administration, Lewis Strauss, believed that the job of developing "atoms for peace" was primarily the responsibility of private industry. The technical and managerial resources of private industry were, however, being similarly strained by the demands of military nuclear projects. For instance, the first power-producing nuclear reactors were developed by private industry for the United States Navy in order to propel submarines.

The military origins of United States nuclear reactor technology had two important consequences. First, the reactors themselves were designed for use by the Navy's highly trained and highly motivated operators but were not necessarily ideal for commercial use by electric power industry personnel. The second consequence was that the companies who developed and manufactured reactors for the United States Navy were, quite understandably, eager to capitalize on their knowledge and experience in the much more lucrative civilian market. By the early 1960s, the reactor manufacturers had modified the design of their naval reactors and began to aggressively market this new, and largely untested, product to their long-standing customers in the electric utility industry.

The nature of the commercial relationship between the reactor manufacturers and the electric power companies is an important element in the story of United States nuclear power. General manufacturers had provided technological leadership to the electric utility industry for decades. Their customers respected them and substantially lacked the ability to verify or even to question them on many technical matters. The manufacturer's new—and in reality, highly novel—products were advertised and purchased as merely a relatively modest modification to existing and well-understood electricity-generating technology. Nuclear power plants, it was clear, were not revolutionary; they were simply a cheaper alternative to heat water to make steam-driven conventional electric turbines.

Moreover, the first commercial sales of these nuclear steam supply systems were made with prices guaranteed at levels that made them "loss leaders": merchandise initially sold at or below cost in the expectation that a demonstration effect would cause additional customers to flock to the sales office and pay higher prices later on. This marketing strategy was extremely successful. By 1966, less than three years after the first loss leader sales, a bandwagon market for reactors had developed across the entire United States, with electric utility executives all but stumbling over one another in their rush to own their industry's new symbol of technological progress.

Meanwhile, the government agency that was supposed to be in control, if not in charge, of developing cheap, reliable, and safe civilian nuclear technology, was simply a passive observer. During the crucial mid-1960s period of initial reactor commercialization, the AEC's activity in the new nuclear marketplace was essentially limited to reprinting the manufacturers' advertisements under official covers, giving the reactors the cachet of authoritative verification. But this was by no means the limit of the AEC's failure during the mid-1960s. Its leaders committed other errors both of omission and commission.

First, the AEC simply never took the job of regulating nuclear power seriously. Regulatory policy was *explicitly* based on the peculiar proposition that because nuclear technology was so obviously hazardous, the companies manufacturing and purchasing it would regulate themselves. AEC officials assumed, in effect, that manufacturers would design reactors that were "safe enough"; that construction companies would build them according to rigid standards of quality control and quality assurance, and that utility companies would operate them safely. The AEC defined its job as setting the basic design, construction, and operating standards and then "spot checking," with a strong presumption that these standards were being followed, to make sure that designers, builders, and operators were doing what they were supposed to do.

In the early years of nuclear power, the AEC's reactor program was also flawed by an important error of commission. Its scientific research program was almost totally concentrated on a single technical characteristic of nuclear power plant design: the efficiency with which reactors consumed uranium. What would turn out to be far more commercially significant areas requiring research and development—radioactive waste disposal; *safe,* as distinct from fuel-efficient, design; simplicity of operation; and a host of others—were either ignored altogether or only meagerly supported.

Signs of deep trouble quickly appeared in the United States commercial reactor marketplace. By the late 1960s, it was evident that some of the economic promises of the early years were not being kept. Nuclear power plants were costing roughly double what had been estimated to build them. The manufacturers responded with a design change that it was hoped would make reactors cheaper: they started to sell much bigger plants with the idea, borrowed from experience elsewhere, of spreading the high fixed costs of plant construction across larger units of output. By the early 1970s, utilities were buying designs for nuclear plants that were up to *six times* larger than any that had yet operated. Today, most executives in the utility industry concede that the explosively rapid scale-up of designs fifteen years ago was a costly mistake.

A second and eventually more costly problem for the infant nuclear business came from outside the closed circle of industry and government. Persons with no official connection to government regulators or industry buyers and sellers began to claim that, contrary to the assertions of all of the latter, nuclear power plants *were not safe enough.*

An essential element of opposition to nuclear power in this country is often ignored. Effective opposition has always been based on *technical arguments.* During the latter years of the 1960s, outsiders began to ask specific technical questions about reactor design and operating characteristics. And, from the first, they had the better of the argument over the questions they raised.

The watershed event was an eighteen-month public hearing held, at the insistence of outsiders, by the AEC in 1972 and 1973. At issue was the adequacy of the "Emergency Core Cooling System" (ECCS) for preventing a catastrophic accident to a pressurized water reactor. After the hearing, which lasted 125 days, AEC regulations were revised, vindicating the outsiders' claims that there were defects in the design of the reactors that utilities had rushed to buy during the preceding ten years. Prior to the ECCS hearing, opposition to nuclear power was limited to local challenges to specific projects. Afterward, the issue became the inherent safety of the dozens of reactors then in operation and under construction, and hence, the basic social acceptability of contemporary nuclear power technology.

More specifically, the ECCS controversy caused the first of many expensive redesigns of commercial nuclear power plants, each with the purpose of making reactors still safer. Currently, this process continues and is the basic reason that the average cost of nuclear plants completed today is higher than the average cost of plants completed in the 1970s. United States nuclear power plants have been continually redesigned in an effort to make them comply with established safety measures and developing safety concerns. Each design change has increased the cost of the final product. Today, the fundamental point of disagreement between the nuclear industry and its outside critics is whether current designs and standards are "safe enough." There is little prospect that the argument will be resolved for at least several years, until considerably more operating experience is gained with the redesigned plants, both here and abroad, that have entered service only recently. But the weight of empirical evidence does now appear to be accumulating on the side of those who insist that today's designs are, indeed, safe enough.

Ironically, perhaps the most persuasive empirical evidence about the inherent safety of today's reactor designs comes from the April 1979 accident at Three Mile Island. For a large fraction of the American public, this accident seemed to be the definitive vindication of the claims of persons who had been fighting the nuclear industry. Something that was supposed to be *impossible,* a catastrophic accident to a large, modern nuclear power plant, had, apparently, almost happened. The nuclear industry's assurance that TMI had proved that reactors were safe, not unsafe, had a decidedly hollow ring. Yet the perspective of time and distance has added credibility to this assurance, for it is now clear that TMI confirmed some fundamental propositions about how nuclear reactors would behave under extreme conditions that before the accident had only been proven in theory. Nevertheless, it has also become increasingly clear that TMI was a true watershed for nuclear power in the United States. All of the nuclear plants completed and operating *before* the accident are now generating electricity that is relatively cheap.

The TMI accident caused a virtual two-year hiatus in the licensing of new nuclear power plants for operation. It also caused some costly design changes to plants that were partially built at the time of the accident. The combination of the delays, during a period of unprecedentedly high interest rates, and the required design changes has meant that nearly all plants still being built will produce relatively costly electricity. Many, including Seabrook, will produce electricity that by any contemporary, reasonable standards is extremely expensive: two or three times the cost of electricity produced from burning oil, unless oil-price increases exceed $75 per barrel.[8]

By the end of 1980, it should have been evident to PSNH management that during Seabrook's first few years of operation, the plant would mean more, not less, expensive electricity to its customers. It is true that 1980 was a year of deep pessimism among nearly all energy experts about the probable cost of oil during the late 1980s and 1990s. In 1980 it was not necessarily foolish to suppose that, even at a total cost of $5.25 billion, Seabrook might produce relatively economical electricity in the 1990s, assuming that the price of oil reached the levels of $100 per barrel that most experts were then predicting. Yet the key point remains—PSNH management was literally risking their company as a going business concern for arguable benefits.

Today Seabrook is an unqualified catastrophe. If unit #1 is completed and all or most of its costs are passed along to New England electricity consumers in the form of substantial annual rate increases—10 to 20 percent—for several consecutive years, there is only a small chance that those costs will be offset by future benefits to different customers. Moreover, there are several clearly more economic alternatives to Seabrook's expensive electricity. It is still in the interests of PSNH and the other owners' customers to abandon Seabrook. Unhappily, because of the investments made in the project since 1980, Seabrook's cancellation today, without substantial cost recovery from customers, could mean the end of PSNH as a going business concern and the loss of hundreds of millions of dollars for the company's bondholders and creditors. The company's failure to cancel Seabrook by 1981 was devastating: it was precisely the kind of company-wrecking mistake that top management has the ineluctable responsibility to avoid.

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## Notes

1. The following history of the Seabrook project was compiled by the author, entirely from public sources, over a four-year period, 1979 to 1983. It has been used as the basis for classroom discussion as part of an elective course, "Managing Energy Resources," in the curriculum of the Harvard Business School's M.B.A. program. The material in case study format is available from HBS Case Services, Harvard Business School, Boston, MA 02163, under the title *Public Service Co. of New Hampshire: The Seabrook Nuclear Project* (9-679-079). A companion Teaching Note is also available (5-685-010).
2. For more detail, see Irvin C. Bupp and Jean-Claude Derian, *The Failed Promise of Nuclear Power* (New York: Basic Books, 1981).
3. Robert Stobaugh and Daniel Yergin, eds., *Energy Future: The Report of the Energy Project at the Harvard Business School,* 3rd ed. (New York: Vintage Books, 1983). See especially Chapter 6.
4. Frederick R. Anderson, *NEPA in the Courts,* (Washington, D.C.: Resources for the Future, Inc., 1973).
5. For a definitive explanation of these concepts, see L. S. Pomerantz and J. E. Suelflow, *Allowance for Funds Used During Construction: Theory and Application* (Lansing: Michigan State University Press, 1975). For a more sophisticated account, see *Note on "AFUDC"* (0-682-032), HBS Case Services, Harvard Business School, Boston, MA 02163.
6. It has recently become apparent that throughout the history of the Seabrook project supposed cost "estimates" have never been real estimates at all. Instead they have been systematically optimistic *construction management targets.* See Michael B. Meyer, "Nuclear Power Plant Under-Estimations: Mechanisms and Corrections," *Public Utilities Fortnightly* 113, Issue 4, February 16, 1984, pp. 28-31.
7. Bupp and Derian, *Failed Promise.*
8. Cambridge Energy Research Associates, "Prometheus Bound: Nuclear Power at the Turning Point," private report, November 1983. See also Cambridge Energy Research Associates, "Prometheus Bound, Update," private report, April 1984. CERA, 56 John F. Kennedy Street, Suite 5, Cambridge, MA 02138.

# Public Education in Boston

Joseph M. Cronin

*Historically, Boston schools have been a source of pride and educational innovation, yet they have also been fraught with problems that are typical of urban education. Both the success achieved and the problems encountered in Boston schools bear analysis. In looking at such areas as overall quality of education, funding, and compliance with federal guidelines, specific recommendations for the future of public education in Boston can be offered. In addition, the impact of Boston's success or failure in implementing new ideas through the school committee and the mayor is not limited to the city itself. This article's outlining of public education in Boston has lessons for the whole of New England.*

The issue of public education in Boston has been the topic of intense discussion and debate for the last twenty years. The injuries and complaints of Boston school parents have been considered by a series of state and federal courts. For several years, the rights both of minority children, now a majority of the school enrollment, and of handicapped children have been protected by judges and court desegregation monitors. Since Boston public schools educate 10 percent of the children of Massachusetts—5 percent of the children of New England—the problems of Boston schools spill over to other communities and other states. Indeed, even before the well-publicized federal court desegregation decision in 1974, Boston schools won attention in books such as *Village School Downtown* and *Death at an Early Age.*[1]

During 1984, Boston voters elected a new mayor, and a new city council and school committee, both of which have four members elected at-large and nine members elected by neighborhood districts in the city. In the area of public education, the mayor, the council, and the school committee collectively face old problems and new opportunities. This article explores how the former may be overcome and the latter availed of. Specifically, it addresses the following questions:

What myths about New England schools get in the way of solving problems?

What are some of the key problem areas that affect educational excellence?

What is the history of urban school improvement, including state involvement?

What decisions can the mayor make about public education?

*Joseph M. Cronin is President, Massachusetts Higher Education Assistance Corporation.*

How can the Boston School Committee function effectively and find the necessary funds?

What can elected officials learn from historical precedents?

What does the future hold?

It is important to look to the future and to acknowledge that the infant born in 1984 will probably graduate from high school in 2001. Boston schools were indisputedly great in the seventeenth and nineteenth centuries but were less so in the eighteenth and twentieth centuries. There should be a major effort, therefore, to prepare Boston schools for excellence in the late 1980s and 1990s, with the focus of debate on the proper education of children who will spend most of their lives in the twenty-first century.

## Mischievous Myths

One must begin the discussion of public education in Boston by rejecting the useless myths that retard understanding of today's problems. These myths concern Boston school enrollment, the school committee's role, the loss of "local" control, and the switch to parochial or private schools.

The problem of declining enrollments is not a recent one. Boston schools began to lose enrollments during the 1930s after public school enrollment reached a high of 137,000 in 1933. The schools then lost 52,000 pupils by the early 1960s. Although Judge W. Arthur Garrity's desegregation decision in 1974[2] and the State Board of Education's action may have accelerated parent flight from the public schools for several years, Boston families were buying or building homes in other communities for the four decades prior to their actions. White enrollment in the western Boston suburbs that have reputations for excellent schools has declined 35 to 50 percent since 1970, yet the same is true of major cities such as Baltimore, Cleveland, Columbus, Milwaukee, and San Francisco, whether or not courts have desegregated their schools.

A second myth, believed in all New England states, is that the school committee runs the schools. The most important decision a committee makes is the selection of an able superintendent of schools. Its most important function is to guide, question, and challenge yet support that superintendent in carrying out the mandate of economic, equal, and excellent education. Conflicts between school committees and superintendents can be counterproductive. Schools handle turmoil poorly, and controversy is useful only if it calls attention to resources needed to improve a situation.

A third New England myth, indeed a minor branch of secular theology, is that schools are a local problem governed by "local" control. Throughout this article, the traditional role and legal authority of the state in requiring cities to establish an educational system according to state criteria is examined: school committee members, it must be remembered, are state officials, and as such they are accountable to the state Board of Education and the legislature.

A fourth myth is that citizens have switched their children to parochial or private schools only very recently. The use of private schools in Boston actually began in the seventeenth century, well before the development of a Boston School Committee in the nineteenth century. During the 1930s, parochial and private schools attracted 30,000 students, and private school enrollment reached a peak of 45,000 in the years after World War II. During the 1960s, the numbers shrank to 30,000 and have, in recent years, stabilized. Of course, the percentage of all students using private and parochial schools is higher now than it was many years ago. Thousands of Boston school parents, however, use *both* parochial and public schools: public schools for kindergarten and the high schools that require entrance examinations, and parochial schools for the elementary and junior high school years. The existence of educational alternatives should goad elective officials to compete in offering quality education in the public schools.

## Key Problem Areas

Several key problem areas—overall quality of education, funding, security, community use, state involvement, successful graduation of students, and the competency of teachers—affect Boston's educational excellence. These areas require thoughtful analysis in order to solve the problems and thus further academic integrity.

Education quality encompasses the breadth and variety of school programs, and the adequacy of the curriculum in conventional and vital basic academic subjects such as math, science, reading, and writing. Quality includes the availability of art and music and pupil access to libraries and physical education. It also includes the education of the handicapped and vocational programs. Many specialized teachers, however, were laid off during Tregor/Proposition 2, severely limiting the level of educational quality.[3]

In fact, the teaching force, sometimes unfairly, is held responsible for the shortcomings of the schools. Clauses in the teachers' collective bargaining contract, however, such as "bumping rights" for teachers who have longer years in service, or rights to transfer to another school whether or not the principal feels the teacher is the right person for the job, may impede quality.

Another component of quality requiring attention is the service for educationally handicapped children. Boston school services for the physically handicapped were nationally recognized at the turn of the century. More recently, Judge Thomas Morse found the Boston schools out of compliance with state and federal standards for the education of the handicapped, and he appointed a monitor and supervisor of placement and program decisions.[4] In order to remedy the problem and improve the services to handicapped children, the school committee should ask for a briefing on their responsibilities under the law. Although this receivership ended in the summer of 1983, the issue is one that could arise again.

Vocational education is another important issue. The magnificent Hubert H. Humphrey Occupational Resource Center, despite its attractive features, is one-third empty during the day and has space available in the late afternoon. Here the problem to consider is how to publicize the center and how to educate students about the merits of vocational training. A dozen headmasters and three dozen counselors have failed thus far to encourage enough students in their high schools to enroll. Encouragement and support for vocational education is necessary to maintain its quality.

Often, the results of testing programs highlight the achievements of school educational programs. For instance, a total of 32,600 Boston students in 1982 took the Metropolitan Test, a measure of national educational achievement. Boston elementary school students performed moderately well on the Metropolitan Test; however, in grades 9 and 10 the scores of Boston school children began to drop to the 30-40 percentile range. In 1983 Boston's 1,500 high school students taking the Scholastic Aptitude Test (SAT) averaged a score of 362 for the verbal exam, which was seventy-five points below the state average, and a score of 407 for the math exam, which was below the Massachusetts average. However, the reporting of an "average score" does not display the 700+

scores of the top Boston Latin School and Boston Latin Academy graduates or the 250 scores of some juniors who have great difficulty answering the questions. Hundreds of Boston high school graduates will not meet the 800 combined test score—the requirement for university admission mandated by the Massachusetts Board of Regents of Higher Education. Certainly, these standardized test results should be carefully examined and, as far as they reflect the relative overall quality of school programs, they should be improved.

A 1983 Becker Institute poll[5] questioned adult citizens about their attitudes toward education. The poll, taken on behalf of the Becker Institute's clients, indicated that much remains to be accomplished concerning the quality of public schools. The respondents to the Becker poll, of whom 60 percent had no children in school (compared to 90 percent in Boston, where only 10 percent of the respondents had children in public schools) believed the following:

62 percent felt that the decline of education was serious;

48 percent labeled the quality of education "poor";

73 percent said that new teachers should be tested;

92 percent agreed that students should pass an annual test of basic skills;

65 percent thought the State Board of Education should make up the test for Massachusetts children;

70 percent felt that state aid should be withheld if a local school department failed to cooperate with the state in administering the statewide evaluation test.

The results of the Becker poll, therefore, underscore the need for serious improvement of quality, insofar as Massachusetts citizens perceive it.

A second key problem area in Boston concerns finance. The mayor and council each share responsibility for Boston's tax rate and the amount of the school budget over and above what the Tregor law requires. Deciding the level of the school budget is an annual issue of great importance. By rural or suburban standards, Boston schools are expensive. The allocation of $229 million in FY 84 by the official votes of the school committee and the city council was only the city share. Another $30 million for Boston school programs came from state and federal sources. Pensions and debt service on school construction appear nowhere in the school budget, unlike the budgets of many cities outside Massachusetts. In addition, only $150 million of the total funds was allocated to instruction, of which $75 million was for "regular" education (actually $63 million after $12 million was spent on transportation). Handicapped children needed $48 million, of which $5 million was for transportation, and $15 million was allocated for tuition for private placements other than in city schools. Occupational education cost $11 million and bilingual education cost another $10 million.

This annual operating budget provides for staffing. In FY 84 among the 8,000-member staff, approximately 2,300 were regular instructors, 120 were vocational teachers, 750 were special education teachers, 400 were bilingual education teachers, and 200 were specialists and substitute teachers. Boston employed 769 pupil service workers, of whom 438 were hired for extracurricular programs and 99 as safety/security workers. Another 1,300 workers provide "support service," of whom 470 are assigned to the physical plant, 814 to administration, and 34 to information services. There were

45 staff members working on alterations and repair, with a steady supply of work orders and requests.

Since they affect the Boston school operating budget, these 2,500 non-teaching positions need a thorough review. There may be a surplus of district superintendents, principals and assistants (in small schools), nonteaching teachers, custodians, aides, and other staff. State and federal laws require that certain central office and school building functions be performed by qualified accountants, engineers, counselors, principals, and superintendents. In order to fairly examine staff and costs, it is possible to compare personnel levels in Boston with personnel levels in cities of comparable size, such as Pittsburgh, St. Louis, San Francisco, and Louisville. The Municipal Research Bureau, the Boston Finance Commission, and area universities with the help of the Council of Great City Schools, have the resources to compare workloads and school staffing costs in these cities with Boston's in order to evaluate Boston's relative cost-effectiveness in these areas.

The issue of school finance also encompasses the building and maintenance of physical facilities. Boston has had some outstanding school facilities at all levels, such as the new Condon Community School and the electronics lab and cablevision studio at the Hubert H. Humphrey Occupational Resource Center.[6] Boston also has middle schools that were converted from elementary school buildings, and which lack modern science facilities and space for other programs. Boston English High School suffers from design flaws that make it an inadequate high school for the long term. The Boston Latin Academy occupies a substandard facility that has long been scheduled for replacement.[7] In addition, gymnasia in many schools are inadequate for a full program of physical fitness, sports, and recreational activities. Physical education space is a problem at many middle schools and several of the senior high schools, especially in an age that requires equal access to facilities for young men and women.

In order to most effectively distribute the allocated funds to Boston schools, the two dozen schools with the most educational shortcomings, relatively small enrollments, the least energy-effective measures, and the highest maintenance costs, ought to be closed in 1984-86, despite alumni protest or neighborhood nostalgia.

A third key problem area facing Boston schools is security. The typical Boston school is a sturdy fortress, protecting those inside against unauthorized intruders. Fortunately, most Boston schools offer reasonably good protection against violence and disruption, and those schools with persistent problems of discipline, tension, and conflict are few. However, several hundred acts of vandalism and destruction of property are reported each year. It is important to note that many such acts are committed by out-of-school persons; the schools have strict discipline codes and violators are punished by reprimands, suspensions and, if necessary, expulsions. Arson and fire problems are less frequent but are a source of expense and concern to schools and public safety officials.

The role of schools in a community is a fourth problem area. All industrial communities, and many less developed ones, treat the school as a very special, almost sacred place. Very often, Boston schools are often named either for the neighborhood or for some hero or outstanding citizen, thus furthering this identity of the school as a special, perhaps inaccessible, place.

Ideally, the school should be a community facility utilized by all age groups, from infants to elderly people, and by the entire family. One positive example of community use is the Josiah Quincy School in South Cove, which also functions as the local community's social center. A dozen of the 123 Boston schools serve as community schools, while the remainder exist on a strict schedule and are locked up in mid-afternoon. To use facilities at night requires payment of custodial and security fees that most neighborhood groups find exorbitant and prohibitive. Although other New England cities have similar constraints, the fact that, in general, Boston schools are not available after normal school hours for the use of the community is a problem for the mayor, council, and school committee. This is a reason that many neighborhood associations and councils look to churches, settlement houses, and other facilities as alternatives.

A fifth problem area is control of the schools. When former school committees refused to comply with state and federal statutes concerning equal education for racial minorities and handicapped children, the price for this noncompliance was heavy: several races were alienated, there were ten years of negative publicity, and the school committee lost control over student and staff assignments.

Judge Morse found Boston out of compliance with Chapter 766 of the Massachusetts statute and federal law 94-142—the statutory requirements for the evaluation and placement of handicapped children.[8] Until 1983 special needs placements in Boston were closely monitored by the court. In 1981, Judge Garrity began to reduce his close supervision and control over Boston school operations. He asked the State Board of Education to perform most of the monitoring of Boston schools as that board does for other Massachusetts cities with substantial racial minorities. He requested business leaders to remain involved with Boston schools and urged that Boston parents participate in discussion and decisions about the schools.

In 1984 the Boston School Committee had an opportunity to regain a considerable measure of control by voting on a comprehensive educational plan. During 1983, an educational planning group involving school committee members, community representatives, leaders of several city-wide groups, school planners, and university personnel was established. Their recommendations, along with those of parents and other citizens, formed the framework of a plan that can be submitted to the court and state board, thus re-establishing some measure of leadership and control.[9]

Another important problem area is the success or failure of the school system in graduating students either into the world of college or into the world of work. As late as 1984, less than half of Boston school students graduated from high school and, of those, only half went on to college. A large proportion of the 25 percent of Boston students who do go on to college graduate from the Boston Latin School and the Boston Latin Academy. As an incentive to increase the numbers of graduating students, Boston schools signed a Compact with business organizations, universities, and cultural organizations to increase school attendance through grade 12; to teach basic skills more effectively; to graduate 5 percent more students each year; and to place more students in postsecondary education or in work, with notices of jobs provided by employers. With the Greater Boston Chamber of Commerce and the Private Industry Council locating 320 employers willing to sign an agreement to offer job notices and help to Boston graduates, 1984 was a year of measurable progress. For their part, area colleges have offered scholarships, college counseling, practice at SAT tests, and information about postsecondary opportunities.

Many Boston students would benefit from a one- or two-year technical program of education. A four- or five-year degree is only one option, but already the percentage of those expressing interest in further education has gone from 53 percent in 1982 to 61 percent in 1983.[10] However, the school system's college and employment counseling problems include a very limited counseling staff with a 1:400 ratio, low expectations among students at certain district high schools, and a lack of student achievement in certain middle and senior high schools. The business community has provided considerable inducement through the Trilateral Council for Education Quality and School Volunteers for Boston, both of which provide partnerships, tours, tutoring, and many other types of stimulation toward school improvement and career education.

A final problem area for Boston's public educational system concerns teachers. On the front line of urban education, Boston teachers have faced forcible reduction in their numbers due to the decline in enrollment and the shortage of funding. They have been bumped and beleaguered, and they need strong and consistent support from the school committee, superintendent, and mayor, as well as good materials and the chance to succeed. At the same time, teachers cannot expect to take the maximum sick leave and personal days each year or expect guaranteed employment in fields outside their college major or field of expertise. They cannot expect to survive by pass-fail grading systems for themselves, which deny excellence, or avoid periodic upgrading of their knowledge of subject matter. In order to maintain public support and the confidence of city officials, Boston teachers must abide by stricter professional standards.

Massachusetts will be faced with a challenge in 1985 to revise the curriculum, set higher standards, and upgrade the quality of teachers. Some teachers will need the option of retirement or retraining. Because teaching is demanding, especially in the city, the quality and morale of the teaching force should be given thoughtful, compassionate consideration by the school committee and superintendent as well as periodic recognition by others, including the mayor and local corporations.

## The History of Urban School Improvement

The history of school improvement begins with the start of public education. Boston Latin School, founded in 1634, was the first public school in America. To this day it continues to function, along with the Boston Latin Academy, as a college preparatory school. During the 1800s, Boston founded the first English High School in America and was among the first cities to introduce public school legislation, industrial and vocational education, and school health programs. School superindendents spoke on these innovations at national meetings about education and welcomed many to Boston who wished to follow the city's progressive lead. At the height of Boston's academic excellence, more than one hundred Boston school seniors a year were admitted to Massachusetts Institute of Technology and Harvard University. University cooperation with Boston employers was such that hundreds of students were dismissed early in the afternoon each November and December to clerk at downtown retail establishments. Special programs for carpenters, upholsterers, electricians, and other trades led to early acceptance by the specialty labor unions and helped establish solid careers.

Boston schools grew from the late 1800s until 1933, when school enrollments peaked. Beginning in the 1920s, roads and commuter rail began to reach Boston's nearby rural communities and suburbs, and the city's family population began a fifty-year process of migration to larger, greener lawns. Federal mortgage and highway policy after World War II further stimulated the suburbs and thinned out the city. Initially, the families moving out were Protestant, then Irish and Italian Catholic, and then finally Jews, who were among the strongest patrons of Boston public schools. The population of Boston schools, which was 98 percent white, dropped 50,000 in twenty years to its low of 85,000 in 1955. For a decade, the school population grew slowly up to 93,000, largely because of blacks and others migrating to Boston from other cities, the South, and Puerto Rico. Today both black and white enrollments, along with family size, is declining, although Hispanic and Asian enrollments are climbing each year.

During the 1800s, Boston's school organizational structure evolved. Most of the basic nineteenth-century organizational structure of Boston schools still exists. There is a school committee, a superintendent of schools, and headmasters (high school) and principals who are aided by various deputies and assistants. The city-wide high schools either select students by examination (the Latins and Technical High), offer a special program (English, Copley, and Boston High), or exist as district high schools serving neighborhoods (Brighton, Hyde Park, Jamaica Plain, Roslindale, and West Roxbury). At one time the mayor was a member of the Boston School Committee, but this practice was dropped in 1884. In Boston, as in other cities, ward politics led to scandals over textbook selection, schoolhouse maintenance, and school employment procedures. The school committee was reduced in size from seventy-six to twenty-four members, then in 1906 to five members, and in 1984 to the present size of thirteen. The history of state involvement in the management of schools began in the twentieth century. Prior to 1965, the State Board of Education essentially left Boston alone, partly because all the postwar requests for assistance came from the overflowing suburbs, which needed state help for new schools and for training new teachers for the suburban baby boom. Boston trained its own elementary teachers at the "normal" school, later Boston State (Teachers) College, and with its good tax base and declining enrollment, it raised 95 percent of its support for schools locally from taxes on property, while still enjoying higher teacher and administrative salaries than most of the suburbs.

However, during 1965 two major developments changed the relationship between Boston schools and the state. The Willis-Harrington report recommended a stronger leadership role for the State Board of Education and a new school aid formula increased state aid from less than 5 percent to more than 25 percent of the Boston school budget.[11] A blue-ribbon panel, including Cardinal Cushing and other leaders, recommended the state Racial Imbalance Law to provide for racial equality and integration of the growing number of minorities.[12] Both laws passed. Boston accepted the additional state aid for school operations and buildings but very reluctantly submitted to racial balance plans in 1966-74, plans meant to address a problem that had plagued Boston since the 1840s.

This was the first time that the Boston School Committee and State Board of Education members tried to work through major issues of educational planning, quality, and responsibility. Both state and federal courts were called in to resolve the racial controversy after the school committee failed to submit plans that adequately complied with either state law or federal civil rights standards. Judge Arthur Garrity found a "dual school district,"[13] one in which minorities were moved through school on a different grade structure than were white students. He approved a state board plan in 1974, then his own modified version in 1975, always closely collaborating with state education officials.[14]

Since 1970, the state has passed laws concerning bilingual education and the education of handicapped persons. Also, the state must approve local plans for almost all federal educational programs, one of which is for vocational/technical education. The role of the state as supervisor, monitor, and regulator has grown considerably during the past twenty years in Massachusetts, as in all other states.

Education, implied by its omission from the United States Constitution and as it is briefly defined in the Massachusetts Constitution, is a state responsibility. School committees are in fact made up of state officials, and they exist due to state statutes. Only their size is regulated by home rule or local option. Schools must abide by minimum state standards that are set by state officials for length of day, length of year, and health and sanitary conditions. The placement of handicapped students, including the method of evaluation of needs; the contents of an individual education plan; the varieties of bilingual education; the safety standards for a school bus; and the kind of evaluation for federally funded reading programs, are subject to review by state officials.

The issue of state and local division of responsibility for education, quality, and dollars continues to attract considerable attention in New England. Other regions and states—from New York to Tennessee to California—have already begun debate over the question of how the state can both mandate and finance school improvement plans, and how much they can measure and enforce compliance with those standards. Indeed, states outside of New England, where local control is less of an ideology, often exert a much stronger influence on local school decisions. Twenty-one states actually approve the textbooks used in local classrooms. Dozens of states periodically send inspectors or evaluation teams into the schools. New York now requires that all teachers obtain a master's degree by their fifth year in teaching. Most of the southern states require teachers to pass a test, whereas in the North this has mainly been a city requirement for sixty years or more, and a growing number of states require that students pass a test either for promotion or graduation from each school level.

Local control, although a much trumpeted slogan, is not supported in the Massachusetts Constitution, state statutes, or public opinion. In fact, during the late 1980s, more control may be assumed by the state due to citizen discontent with the quality or productivity of schools, including Boston's schools. Public opinion surveys in Massachusetts (Becker 1983) reveal an overwhelming consensus that the state should require that students study academic subjects each year, such as English, math, and science, more than one year of U.S. history, and four years of physical education; and that the state should test student academic progress at several intervals as a condition for the continued flow of state funds.

Federal funding has also historically influenced Boston schools. Federal funds in the 1960s made possible new educational programs for disadvantaged students (Title I, now called Chapter I). These funds can only be spent according to a detailed plan, and are subject to annual evaluation and audit. However, the school committee and superintendent can periodically restructure Chapter I programs to make them work more effectively. Federal officials also supply much of the money for school lunch and breakfast programs, handicapped education, and bilingual education—each of which carries special rules and guidelines. State officials are paid to approve, monitor, and evaluate both the federal and state programs.

Although through the early 1980s the Reagan administration practiced deregulation and program consolidation, offering less rather than more federal funds, the nation continues to debate the need for increased federal funds for math and science teaching, curriculum development (possibly for foreign language and computer education), and federal encouragement of excellence through teacher merit pay, gifted student programs, and other means. Federal funds, however, should not be expected to account for more than 10 percent of the budget in the mid-1980s. Most likely it will be the Commonwealth of Massachusetts that will try to assume a larger role in assuring school quality and adequate funds.

## Mayoral Decisions Affecting Public Education

The mayor is an important person in part because he or she approves the school budget and controls the purse on major school construction decisions. But he or she is also viewed as a leader in devising a total strategy of improving the economic climate of the city, including much that affects the schools, whether it is the quality of public housing, health, job training, family services, or the control of crime and delinquency.

### *On Curriculum and Operations*

It is politically undesirable for a mayor to participate in decisions to name principals, to promote district superintendents, or to fire or transfer teachers—the lists of mayoral campaign contributors would be scrutinized for the names of educators. During the 1890s and again in the 1930s, teachers and administrators were believed to "purchase" their positions, which is a potential source of scandal that neither the mayor, school committee, nor school staff wants—or could get away with—in the 1980s. Occasionally, students need to be expelled or teachers disciplined. A mayor does not want to get involved in operational decisions that either punish or reprieve school offenders.

Although there is nothing wrong with a mayor expressing opinions on curriculum—for example, on the value of Latin or Greek, on the need to emphasize writing in the schools, or on the need for computer literacy or laser technology—a mayor might not want to vote on whether Biblical "creationism" is taught in biology or general science or whether the works of John Steinbeck, John Updike, or J. D. Salinger are included in the literature courses. Among the actions appropriate for a mayor are these: to visit a school, to honor an outstanding teacher or principal, to speak at an assembly (during a campaign the challenger should also appear), to address the graduating class, to invite students to spend a day at city hall, or to engage in community service. A mayor can properly propose and build new buildings, dedicate an addition, challenge the school officials to expand a program, cut the school budget, demand greater productivity, and require a performance-oriented program budget. A mayor can call on business, universities, and labor and arts groups to multiply their school services and work more closely with the schools.

The mayor does not employ the superintendent, who neither heads just another department of the city nor subordinates the needs of schoolchildren and teachers to the compelling political needs of a mayor. The success of Philadelphia's Mayor Frank Rizzo in driving Dr. Mark Shedd out of that city's superintendency or the efforts of Massachusetts Governor James Michael Curley to fire Payson Smith as state commissioner of education were violations of the tradition separating school politics from city politics. Yet, the mayor and chief school officer must cooperate, for the schools need money, encouragement, and facilities, and the mayor needs the city's reputation for good or improving schools to attract or hold industry and young families. The city schools need superintendents who are retained for more than two or three years. The mutual regard of Boston's Mayor Kevin White and Superintendent Robert Spillane was a healthy model, one which served the schools well in a period of fiscal uncertainty.

### *On the School Budget*

Mayoral involvement is crucial in matters pertaining to the school budget. The real "cost" figure for Boston is rarely tabulated. Total school costs in FY 84 were as follows:

| *Millions* | *Purpose* | *Source* |
|---|---|---|
| $229. | school operations | city (40 percent state reimbursement) |
| 30. | special programs | federal and state |

With pensions and debt service, the real total was estimated at $348 million in September 1984, or about $6,000 per student. The school committee and mayor usually focus on the top line of the budget since this is the statutory figure affected by their decision. The city school budget in recent years was:

| | |
|---|---|
| FY 1981/82 | $210,534,097 |
| 1982/83 | $234,400,000 |
| 1983/84 | $225,000,000 |
| 1984/85 | $245,000,000 |

During 1983, the mayor and council approved a $5.2 million supplemental budget for FY 84 so that no more teachers had to be laid off. And then during 1984 another $10 million was added to fulfill a new teacher contract. It is important to realize that the school committee, superintendent, and staff made deep budgetary and staff cuts in 1982 and 1983, and that the school budget was *reduced* by $5 million in FY 84, even with the supplemental budget. At the same time the school department staff was reduced by 700 persons; otherwise costs would have increased by at least $15 million. From the fiscal year ending in 1983, the costs had risen by $25 million.

However, Boston schools need more money for four reasons: first, teacher salaries and other staff costs rise with inflation; second, the cost of bilingual and handicapped education is much higher than regular education, and Boston, compared to other New England communities, has an unusually high proportion of students (12 percent) requiring costly programs; third, certain educational programs such as math, science, art, music, and guidance counseling need to be improved; and fourth, many buildings, especially those used as middle schools, need considerable renovation and repair.

The mayor has the means to evaluate and approve the school budget. The operating budget needs to include more funds for maintenance, educational improvements, and restoration of art and music. The facility budget, including school building alterations and repair, could increase by $40 million.

### *On Police and Fire Protection*

Fire and police protection is one area where city officials, especially the mayor, must cooperate with school officials. The job of the police department is to protect the streets and territory around the schools. The job of the school department is to establish discipline and maintain security within the school. This is more difficult than it sounds, because community turmoil and conflict, including ethnic and racial tensions, can easily and quickly spill over into the schools. Each principal and district superintendent needs excellent relationships with the local and area police. Boston schools spend almost two million dollars a year on a special school security staff. This is needed in big city high schools, although it clearly takes away funds. The more that city police can do outside the school, the easier it should be for school staff inside. National or city incidents, controversial sporting events, assassinations, or racial conflicts call for extra preparations and staff, for which the mayor and police commissioner can negotiate or discuss with school superintendents and headmasters.

Police and fire officials offer several "educational" programs including "Officer Friendly," "Danger, Stranger," and "Learn Not to Burn." The mayor, commissioner, and superintendent should periodically evaluate the worth of these programs.

### *On Community Schools*

A mayor must decide how to handle the community schools. For most of this century some of the district schools have served as evening schools, adult literacy centers, and recreation centers. Mayor Kevin White built new ones in South Boston, the South End, Charlestown, West Roxbury, and elsewhere. But most Boston schools become isolated fortresses by five in the afternoon, locking out all age groups for the night.

Community school programs are completely separate from the regular school program and theirs is a city, not a school department, budget item. Some community schools receive federal funds through neighborhood development or Private Industry Council sources, and the state funds certain programs. The community schools could be placed under the school department since it appears that they are no longer well served as part of the facilities department.

Adult literacy efforts are a priority for the federal government and for the city. Half the five hundred thousand dollars spent on adult literacy by the Neighborhood Development and Employment Agency (NDEA) was invested in programs offered in community schools. The community schools could offer more adult literacy and vocational skill development classes to better meet the needs of Boston citizens, which is a mayor's initiative, with or without school committee support. The youth job search and job readiness program could be expanded to more schools. Recreation programs, many of which have been replaced by adult education programs, could be expanded greatly in response to genuine need.

On other fronts, the mayor might foster cooperation between schools and health-related services. The mayor and council should review the old controversy as to who should provide health screening and nursing services for the schools, and the mayor should foster cooperation between schools and community in areas relating to recreation, such as the scheduling and sharing of rinks, courts, playing fields, and the George Robert White Stadium. A mayor can expand the use of school and community recreation facilities, especially in track-and-field events, soccer, and other popular sports, by promoting closer cooperation between the Metropolitan District Commission (MDC), Boston's Parks and Recreation Department, and the school department.

### *Other Mayoral Options*

Further decisions that affect Boston's public education can be made by the mayor. In the 1980s a mayor can take initiatives to develop a positive link between organizations and employers using computer and health technologies and the schools in order to ease the transition for youth from school to work; to promote the fuller use of the Hubert H. Humphrey Occupational Resource Center by the Private Industry Council, by joint training partners, by employers and unions, by the community colleges and other state groups, as well as by the schools; to stimulate the growth of the Copley Square International High School and develop ties to the various consulates, international banks, importers and exporters, visitors and tourists, and universities to encourage careers in international occupations, goals to which the Greater Boston Area Chamber of Commerce and several universities have already pledged their cooperation; to expand services to very young children and offer a full-scale early education program such as the Brookline Early Education Project, to provide counseling, health checks, and advice to parents; and to encourage and reward those universities and corporations that stimulate academic achievement through the Boston Compact. Certain universities, such as Boston University and Northeastern University, have already dedicated scholarships each year to Boston graduates. StrideRite is the latest company to offer scholarship support to Boston students. A mayor can acknowledge the most education-minded of Boston's organizations on an annual basis and can encourage college participation by students in many ways at city hall.

## Making the School Committee Function and Finding the Funds

Financial decisions are of utmost importance to schools. Who will make decisions, what kinds of dollars are needed, and where will they come from? The school committee has most of the responsibility for the approval of major educational and financial decisions. After reviewing the bylaws, organization, and staffing of the school committee, it should consider the following changes.

First, the school committee of thirteen should have a *chairperson* and *vice chairperson* rather than a president. Virtually all of the other great city and Massachusetts school boards elect a chair as presiding officer. The job is not full-time, or even half-time, and "president" is too grand a term, suggesting executive duties that by law and tradition are assigned to the superintendent.

Second, the committee should designate as few subcommittees as possible. Subcommittees can clutter up the work of a board, consume expensive staff time, and assume excessive importance. The exceptions might be an executive committee (primarily of officers but no more than five persons), a budget committee, and an audit committee.

Third, the committee should consider, then reject, the option of individual staff costing $40,000 a year. No one ever intended that raising the size of the school committee to thirteen would raise the "personal assistant" cost from $200,000 a year, which is already excessive, to $520,000, which is extravagant. The extra $320,000 could provide money for twenty kindergarten teachers or 3,000 school textbooks a year. In 1965 each committee member had $6,000 for staff stipends. There is no excuse for a 650 percent increase, especially in light of what staff aides for the city council receive. The city council operates independently of an elected mayor and supervises dozens of city functions and departments. The school committee, in contrast, supervises only one department whose top executive it hires and fires. The school committee should operate more like a city hospital or city library board. The temptation to hire campaign managers or political coordinators as assistants to the members should be stoutly resisted. The school committee, however, does need three secretaries, an assistant to the chairman, and a budget analyst. In 1984 the staff of five should cost less than $100,000, including benefits. One, and only one, automobile should be available to the committee, due to the size of the city and available public transportation or cab service.

However, school committees should be reimbursed for expenses incurred in going to meetings—for transportation and day care for children, if needed. Also, big city school committee members themselves should be paid on a part-time basis. The 1970 Danforth-Massachusetts Advisory Council (Cronin) report suggests $10,000 a year.[15] The Boston Municipal Research Bureau suggests $2,500. Working class parents, in particular, need the reimbursement for time off from other jobs. A total sum of $130,000 ought to be set aside for salaries and reimbursement of expenses, and enabling legislation sought. However, the committee should not meet more than once a week and should avoid the practice of hourly or per meeting fees. Moreover, the committee should refer parent complaints to the principal, and then to the district superintendent, and all inquiries about jobs to the personnel office for review.

The mayor should attend all school committee meetings for the first six months and then, and only then, make a decision on whether to seek legislation to become a member. Arguments in favor of any New England mayor serving on the school committee include several crucial points. First, the mayor has total responsibility for the city—and will get the blame when the schools fail to satisfy or educate many groups. Second, the mayor serves as either a member or ex-officio chair of the school committee in twenty-five Massachusetts communities, such as Springfield, Worcester, Cambridge, Lowell, New Bedford, and Brockton. However, many of these mayors are not full-time and have city managers actually running the city departments. And finally, several reports, such as an advisory bulletin of the Boston Municipal Research Bureau (MRB) in 1981,[16] recommended that the mayor serve on the school committee. The present MRB director, however, does not think that this is a very good idea.

Key arguments against a mayor's serving on the school committee are as follows. First, since 1885, the Boston School Committee functioned without the mayor as member or chair. From 1885 to the 1930s, this was a reasonably productive arrangement, one providing for growth and quality. Second, no other city in the nation has a mayor on the Board of Education. Mayors have too much to do to attend or chair all the boards—hospitals, schools, libraries, renewal or development. A mayor cannot participate in every school personnel appointment or curriculum change or decision to approve a testing program. Third, a mayor can encounter trouble on the school committee as a member with a full vote. How can he or she vote on a budget as a member and then cut it a month later as mayor? As long as the mayor reviews the budget, as he or she does for the city council or other city boards, it would be best to be one step removed from school decision-making. And finally, schools need insulation from city politics, from patronage and from partisan dispute. Three hundred Massachusetts communities operate the schools separately from town or municipal governments. Several of the mayors who serve on school committees are actually city councilors, part-time mayors with city managers. Virtually all American cities with populations of under 250,000 keep the mayor off the school committee or board.

The weight of evidence and argument is that a mayor, no matter how strong or pure an advocate of education, should not serve on the Boston School Committee. Instead, once every quarter the mayor should invite the school committee to discuss finances, quality issues, facilities and general issues; should support the schools vigorously by occasional visits, by addresses to faculty or graduations, by participation in special events and by recognizing universities, the business community, and cultural organizations who work with the schools; should work closely with the governor, legislature and other officials in raising the money needed for the schools; and should consider forming a city-wide youth cabinet, of which the mayor could be the first chairperson, to coordinate the programs of in-school and out-of-school services to young people.

### *Funds Needed for the Schools*

Boston needs substantially more dollars per pupil than other New England communities because it has a much higher percentage of bilingual and special needs children than any other city. It has more poor people, more persons in public housing, more students from single-parent homes, more students in need of compensatory education and early childhood programs. It is a port of entry, not only to Massachusetts, but to the English-speaking world, accepting many refugee families who need kindergarten, early childhood education and extended days. And its vocational education costs more money to meet the specialized, technical needs of hundreds of employers.

Much of the new funds will come from city sources. However, private funds can also be raised for Boston schools. For example, many teachers need $300 or $500 a year to develop a new program or obtain special or supplementary materials. It might be possible to create a Boston Education Foundation to obtain and allocate funds for special or supplementary programs. The other new source of funds, mainly for math and science, will be federal, most of it allocated through the state and through universities. Boston should be ready with proposals for new educational programs and personnel.

During 1984 the state considered spending additional funds for education. Boston school officials will be able to support many of the state proposals, certainly those for additional computers in the school building and the excellent early step of acquiring 1,000 computer work stations since 1981, for funding math and science programs, especially in the middle schools and high schools, and for staff development and in-service training of teachers, counselors and administrators.

Additionally, teachers need to be paid for five days of curriculum development and continuing education time during the year. Certain other proposals, for testing and program review, could become state costs because of the provision in Proposition 2½ that the state assume the financial burden of any new state mandates and requirements.

Other proposals for a longer school day and year, for more teachers, and for a career-ladder for teachers will cost money. Teachers themselves should be consulted since their work hours, contracts, and compensation will be rearranged. It will be important to debate and discuss with parents and teachers the total school system priorities for use of additional funds.

### *Possible Retrenchment*

The issue of cutting costs or utilizing Boston's school budget effectively can be aided by answering these questions: What costs can be reduced or contained? Can the non-teaching staff—administrative, custodians and others—be cut? What is the actual record?

The actual staff records show that the total Boston school staff amounts to 8,000, of whom 4,035 are teachers. The total staff numbered 9,300 for the years 1978 through 1981. The teaching staff was 5,147 in FY 75, 5,235 in FY 80, and 20 percent smaller by FY 83. The number of principals, central office supervisors, administrators, clerks, and maintenance and other staff was reduced from 3,200 to 2,000, or by more than 30 percent over the same time period.

The number of public school facilities has been reduced in accordance with enrollment decline and more than one hundred school buildings have been closed since 1950. In 1950 there were 233 schools; the number dropped to 197 schools in 1970, and by 1983 there were only 123 schools in Boston. Since 1970, the city has built seven new high schools, fifteen new elementary schools, one middle school, and the Hubert H. Humphrey Occupational Resource Center. One result of most of this building program was the closing or sale of many antiquated facilities—between 1977 and 1981, the city closed 36 schools. In 1981, the school committee approved the closing of 27 more schools. Boston is not alone in closing so many buildings. New York City, Chicago, San Francisco and many New England cities have closed hundreds of old schools or underutilized school buildings due to a drastic drop in the birth rate, and not from the impact of desegregation alone. For example, suburbs such as Lexington and Newton have also experienced a 40 to 50 percent drop in pupil enrollment and have closed half of their school buildings.

Boston's process of school closings must continue. There are enough classroom seats for 70,000 students, which is a surplus capacity of more than 12,000 seats. Several dozen elementary schools and several high schools remain open with enrollment at less than 50 percent capacity. Closing a building and selling the land brings two benefits to the city: administrative and custodial staff can be reduced, and the surplus space can be used either for other public services or sold for housing or office use—uses that generate taxes. For instance, the conversion of the Prince School in Boston's Back Bay put $2 million of taxable property back on the local tax roles.[17]

Of course, school closings are unpopular with young parents, old alumni, and present employees who may love their school, however antiquated or underutilized. How can the situation be handled? First, the mayor can formally meet with the school committee and request in writing their cooperation in conducting a school facilities' survey. The superintendent has already begun work on a long-range plan, including facilities and student assignments. The mayor should appoint members of a task force from the staff of the Public Facilities Commission (PFC) and the Boston Redevelopment Authority (BRA) to work with school facilities staff and ask for a report within six months. The report should include these questions: What schools are in good to excellent physical shape and are fully utilized? What schools are either educationally outmoded, underutilized, uneconomical, unsafe or otherwise in need of repair or closing? When could specific schools be closed or phased down?

The task force should define the criteria, rate the condition of the schools, prepare figures on the original and current capacity of the schools, and recommend options for the relocation of students and programs so as to minimize disruption. Much of this work has been done already by the school planning staff, which will make completion of this task easier.

School officials should indicate which facilities will or could be used for special needs, for magnet programs, or as part of a revised educational program plan. Another criterion is compliance with state and federal racial guidelines. The BRA expertise is needed to project the racial, ethnic, and age mix of the population of the next decade and state officials should also be consulted.

Fully utilized buildings should be properly maintained, repaired, or renovated on a scheduled basis, and facilities should be added to make a modern educational program possible. Every year the city and school department should update a five-year facilities plan that would be financed by the sale of bonds and surplus school space.

The mayor should support an early review of the role and number of district superintendencies. Both the Boston Municipal Research Bureau in 1981 and the School Committee Educational Planning Group in 1983 recommended a reduction from nine districts to three or five. When Boston served 90,000 students, there were six district superintendencies. With 50,000 students, there are nine districts, each with a high-ranking administrator and small staff. No more than five are needed to replace the numerically uneven and racially imbalanced districts of 1985. The decision to reorganize the districts should be made by the school committee after they receive the superintendent's recommendations.

A reduction from nine to five district superintendents would also send a positive signal to teachers and taxpayers alike that the administrative bureaucracy was further trimmed. The decision would save a quarter of a million dollars a year.

The argument is sometimes made that the nine district superintendents should be coordinated with the nine district members of the school committee. However, no educational expert would ever propose or endorse this. Each committee member, whether selected at large or by district, serves the entire city. Even if he or she is elected from a neighborhood district, this does not confer special jurisdiction over any subdivision of the city or its schools. Also, the district superintendent reports to the city superintendent, not directly to the school committee or to any one member. Any erosion of this chain of command could lead to personnel abuses, to divisive conflict, and to unnecessary tension between staff and the committee. A school committee member has no decision-making authority except as a member of the whole committee, whose collective votes make policy.

Other possible savings might occur by revising the excessive assistant principal staffing ratios; reviewing special needs placements and the number of special education evaluation team leaders; contracting out custodial services or managing the custodial services according to stricter ratios; reducing the City Parent Council budget of $700,000 per year; tightening management of supplies and materials; and redesigning the heating systems to reduce energy costs.

A mayor can insist on a review of cost-saving opportunities either publicly, through consultants or citizen panel reports, or privately, as part of the budget review process. The mayor and council should annually ask the school committee for cost containment and cost reduction techniques as part of their responsibilities. City councils in the past have rarely exercised the right to ask tough questions, leaving most of the review process to the mayor and the Municipal Research Bureau or Finance Commission.

## Learning from Historical Precedents

Boston schools have a history older than the city itself, the state, or Harvard University. Finding precedents for almost any educational or managerial initiative is relatively easy. For example, the mayor of Boston served on the school committee from about 1855 to 1885, when the city charter was changed. For thirty years, the mayor, as ex-officio chairman, presided over meetings and appointed subcommittees. However, because of another tradition of electing two school committee members from each ward, annexation of territory to Boston resulted in a very large committee.[18] The mayor was removed partly due to the immediacy of other business, especially the rapid growth of population and other municipal services. Also, in 1885, the first foreign-born mayor, Hugh O'Brien, was elected, and state officials imposed a tax limit on Boston in order to curb the rising power of Irish political leaders.

More recently, Mayor Kevin White used state aid and construction bonds to build 17 schools in the early 1970s. Several of these schools were designated "community schools" to serve the neighborhoods, including the adult population on evenings and weekends. Mayor White also made $500,000 in funds available to teach adult illiterates, utilizing community schools as part of this effort. Mayor White appointed several persons to serve as education aides or assistants to the mayor.

Boston School Committees have long experimented with standing committees and subcommittees whose frames of reference covered kindergarten, evening school, the school for the deaf, military drill, supplies, truant officers, and rules and legislation. These precedents make little or no sense in 1984. Only since 1906 has the superintendent been executive officer for instruction and the supervisor of directors, principals and teachers. Through the 1970s, the business manager, chief schoolhouse custodian, chief secretary (in charge of all clerks), and head of building repairs reported directly to the school committee. This personnel chain of accountability does not meet the school system's needs. At some point what would be the most productive arrangment must be put into practice—the city school superintendent must serve as the chief executive officer of the school department. High turnover among Boston school superintendents in the 1970s contributed to confusion and discontent in the schools.

In 1914 a new mayor, James Michael Curley, called for an investigation of the high costs of schools. Who responds to such an inquiry? Who can be called in to get the facts? In 1916 the Boston Finance Commission hired James Van Sickle, the Springfield superintendent of schools, to propose management improvements and economies for Boston. In 1944 the Boston Finance Commission hired George D. Strayer to conduct a more comprehensive study of all aspects of the curriculum and business operations.[19] Although the suggestion of an appointive school board was rejected, the legislature in 1946, in response to the Strayer report, gave the superintendent of schools the right to nominate assistant superintendents and most other employees of the school department.

The Strayer report offered detailed suggestions for the closing down of small schools, many of them one, two and four rooms. In 1952 the school committee called on Harvard University for still another appraisal and school enrollment projection. As a result, 16 school buildings were closed. When Mayor John Collins chose Edward Logue of New Haven to be his urban renewal administrator, he called on Harvard University once again for a second school building survey.

What can be expected from state officials, including the legislature? The state has for many years passed laws to limit Boston school spending, usually because of fears of waste and corruption. School construction scandals have led to an unusual practice of creating separate commissions for schoolhouse construction or, in recent years, for all public facilities construction. This practice in Boston results in divided responsibility for school construction and requires school committee-city cooperation. Since the 1920s, the state legislature has set a spending level beyond which the school committee could not spend without approval of the mayor and council. By 1953, the $40 million budget was double that limit. In 1963 the legislature agreed to a new formula, setting the schools' minimum level budget, in any given year, at the level of the prior year's budget plus approved salary increase minus the year-end surplus. The most recent formula in response to Tregor sets a base figure of $224 million. Time will tell whether this is any more logical than the other irrational schemes.

State aid was only 5 percent of the Boston school budget in 1965, while federal funds were available only for vocational education and school lunch programs. State and federal officials have appropriated much more support for Boston schools since the publication of reports and passage of laws on the needs of handicapped and bilingual children, on racial imbalance, on the need for a stronger system of state educational leadership, and on the need for reorganization of the Boston schools.

Since the time of Horace Mann, Boston school officials have tried to defend the system against criticism. However, the criticism has usually led to either corrective measures or even stronger criticism from outsiders. Criticism of school conditions and low performance have also led to increased dollars from outside sources, albeit most typically with specified school improvement strings attached.

## The Future of Boston's Public Education

The two main issues for the Boston public schools, as they are for urban schools elsewhere in New England, are cost and quality. Both may need to be raised, and legislation in Massachusetts during 1985 could become even more important in achieving these objectives.

The Boston School Committee should take certain steps toward improving education. Members should elect a chair and vice-chair; reject any more than five paid staff for the committee; appoint as few subcommittees as possible; apply for modest compensation for their part-time service on the board; and request expert assistance in learning the job. The school committee must work closely with state officials in 1985 to define the high educational standards needed in the schools, and to obtain the additional funds, state and federal, needed to pay for additional or expanded programs. The mayor should be invited to meetings; a complete review of school facilities should be undertaken; and there should be a discussion of the city budget for the schools. The national reports on education and the Education Planning Group proposal should be studied. The superintendent must respond with specific recommendations and motions for school committee action on any matters remaining from the prior years. In order to comply with judicial decisions and end the court-ordered monitoring and supervision of the schools, staff recommendations should be made. Underutilized buildings and those that do not meet energy, educational, financial or racial integration criteria should be closed. A five-year facility plan and construction bond program should be made and approved. School committee members must evaluate the Boston Compact and ask for periodic reports from the work groups and task forces. Also, they must ask the superintendent to provide timely accounts of progress on school-based management, curriculum development, testing and other educational programs. The economic needs of teachers must be supported but management rights for school administrators, such as the right of a principal to reject a new teacher or transferee and to evaluate and discipline a teacher, must be upheld. New ways to expand the amount of time available to provide teachers and administrators with additional training and program development time must be found. Finally, school committee members help build bridges both to the neighborhoods and to the larger community, including corporations and universities.

## Epilogue

In 1984 the Boston School Committee hired a total of 26 secretaries and administrative secretaries, which is the nation's largest school board staff. Meanwhile, they rejected the superintendent's recommendation for a research and development staff. The committee also asked for personal salaries of $15,000 each, but this new expense of $190,000 on top of $535,000 seemed hard to justify in the face of city budget revenue shortfalls. The committee choked at the prospect of closing any schools or approving the comprehensive plan recommended by a citizen group and revised by the superintendent.

Mayor Raymond Flynn attended a school committee meeting and accepted an invitation to meet with or send a representative to school committee meetings. He established a city-wide youth cabinet that met monthly on juvenile issues, including education. He did not press openly for economies or school closings or for educational program improvements; however, he worked very hard to find summer job placements for Boston high school students and spent considerable time on the problems of raising local revenues to meet school and public obligations.

The business community agreed to establish an urban education foundation called the Boston Plan for Excellence in the Public Schools. The major banks and several foundations pledged two million dollars for school improvement and teacher training projects.

All New England cities face the problems of older buildings that need repairs, and an aging work force of experienced teachers who will soon retire. Each city struggles both to find additional funds and to win support for educational improvements. If Boston schools continue to improve and the test scores of students rise, this bodes well for the smaller cities and the other New England metropolitan areas.

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## Notes

1. Peter Schrag, *Village School Downtown* (Boston: Beacon Press, 1967), Jonathan Kozol, *Death at an Early Age* (Boston: Houghton Mifflin, 1967).
2. Morgan *v.* Hennigan, U.S. District Court, 1974.
3. Proposition 2 was a Massachusetts referendum passed in November 1981 that limited local property taxes to 2.5 percent of total property values. That measure and a Boston property tax abatement case won by Mr. Tregor in 1979 forced municipal officials to cut back on public services and staff, but the fiscal impact was not felt until 1982.
4. Allen *v.* McDonough, U.S. District Court,1976-77.
5. In 1983 The Becker Institute (Boston) conducted a public opinion survey of five hundred Massachusetts adults aged eighteen years or over.
6. The Condon Community School in South Boston was designated to be open in the evening for adults and others. The Hubert H. Humphrey Occupational Resources Center is a 360,000-square-foot vocational training facility with tremendous resources for learning.
7. Boston English High School occupies a high-rise building with periodic elevator problems. The Boston Latin Academy, once the Girls Latin School, was moved several times and eventually relocated to a building across the street from Fenway Park.
8. Parents of the handicapped filed suit and won a district court order putting Boston schools' special education program under the jurisdiction of the court. Chapter 766 (1974) of the Massachusetts General Laws provided a major expansion of programs for the handicapped as did a 1976 federal statute, 94-142. See note 4, above.
9. "The Report of the Education Planning Group," Boston School Department, 1983.
10. Jeanette Hargrove, *Boston Public Schools, Class of '82: A Follow-up Study,* Boston: Federal Reserve Bank, October 1983.
11. The two reports were submitted to the Massachusetts legislature for action in 1965: the Willis report, named for Chicago general superintendent Benjamin J. Willis, who wrote recommendations for a legislative committee chaired by Senator Kevin B. Harrington, and a report on school desegregation submitted by a citizens group convened by Owen B. Kiernan, state education commissioner.
12. Owen B. Kiernan, "Because It Is Right—Educationally" (Boston: Massachusetts State Department of Education, 1964).
13. Morgan *v.* Hennigan.
14. Ibid.
15. Joseph M. Cronin and Richard M. Hailer, eds., *Organizing an Urban School System for Diversity* (Boston: Massachusetts Advisory Council on Education, 1970; Lexington, Mass.: D. C. Heath, 1973).

16. "Boston School System in Crisis," Boston Municipal Research Bureau, May 1981.
17. The Prince School, in a fashionable urban neighborhood, probably represents the most profit a city can obtain from allowing a developer to turn an old but sturdy school building into housing.
18. See Joseph M. Cronin, *The Control of Urban Schools* (New York: The Free Press, 1973).
19. George D. Strayer, "A Survey of Boston Schools," Boston Finance Commission, 1944.